REPORT
of the Curriculum Committee for Secondary Education

VOLUME I
GENERAL INTRODUCTION

Governmet of Pakistan
Ministry of Education
July-October 1960

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FOREWORD

The Curriculum Committee for Secondary Education was appointed by a notification of the Education Ministry, Government of Pakistan dated the 24th June, 1960 for implementing the recommendations of the Commission on National Education and the Government resolution thereon. The notification, which contains the composition and terms of reference of the Curriculum Committee for Secondary Education is at Appendix I.

2. In appointing the Curriculum Committee, Government had assigned it the responsibility "to formulate the curriculum and syllabuses for Secondary Education in conformity with the recommendations of the Commission on National Education, so as to ensure the realisation of national objectives and maintenance of uniform academic standards throug' Pakistan". This responsibility was to be ful' in respect of classes six to twelve constituted, as specified by the National Education, ta Stage, consisting c

Stage, consisting of classes nine and ten and the Higher Secondary Stage, consisting of classes eleven and twelve. The Commission had laid down the provision of free and compulsory education up to class eight as a long term objective. As such, classes six to eight would, in due course, become part of elementary education, which would be compulsory for every child; and Secondary Education would comprise classes nine to twelve only. During the interim period, needed for realising this objective, the three years of the Middle Stage, classes six to eight, were to be considered as parts of Secondary Education. Framing of the curriculum for classes six to eight was therefore assigned to the Curriculum Committee for Secondary Education.

3. The Committee had the honour of being addressed by the President of Pakistan, Field Marshal Muhammad Ayub Khan on the 12th July, 1960 when he addressed a joint session of the Curriculum Committees for Secondary and Primary Education a[illegible] Universitie[illegible] Summer Seminar at Railway's Pu[illegible] [illegible]bbott[illegible] In the part of his address re[illegible] tion, the President emphasised t[illegible] our educational system so as to [illegible] requirements of the fast char[illegible]

science and technology played an effective part. He laid special stress on the formation of character and development of a spirit of Pakistani nationhood and patriotism. The speech of the President has been a source of inspiration and a guiding light to the Committee.

4. Earlier, Mr. S.M. Sharif, Education Secretary to the Government of Pakistan and the Chairman of th Commission on National Education, had addressed the inaugural meeting of the Curriculum Committee on the 7th July, 1960 and provided useful guidance. He emphasised the need of developing the Curriculum on scientific lines and explained the recommendations of the Commission, of which he was the author.

5. The Committee had also the privilege of an address by Mr. Habib-ur-Rahman, Minister of Educatio at its closing session on the 17th September, 1960. His appreciation of the Committee's work was a sourc of encouragement and gratification after a period of hard work.

6. The Curriculum Committee records its grateful thanks to the President for his kind patronage, and to Mr. Habib-ur-Rahman for his interest and encouragement.

7. The Committee had the benefit of consultations with Mr.S.M.Sharif, Education Secretary, Government of Pakistan, Professor Siraj-ud-Din, Education Secretary, Government of West Pakistan, Mr. Shamsul Haq, Director of Public Instruction, East Pakistan and Dr. M. Jahangir Khan, Director of Public Instruction, West Pakistan. The Chairman of the Curriculum Committee discussed with them a number of issues, particularly those that had administrative implications. These discussions were of immense value to the Committee. The Committee records its sincere thanks to Mr. S.M. Sharif and the other gentlemen for their kind advice.

8. Immediately on the appointment of the Committee, a small group of members was constituted to draw up the programme of work. This Group met at Abbottabad early in July and after carefully studying the Commission's views on Secondary Education and on the Curriculum for it, laid down the general principles for the Committee to keep in mind in drawing up the Curriculum.

9. Three members of the Committee, Mr. Kabir Chaudhri, Mr. Abdul Haq and Mr. M.A. Rahman, were appointed as Secretary, Associate Secretary and Resident Secretary respectively. They performed their duties with understanding and efficiency.

10. The Curriculum Committee started its meetings at Abbottabad on 7th July and after two days' general discussion on the principles which should be followed, divided itself into three sub-committees to draw up the General Schemes of Studies for the three stages, the Middle, the Secondary and the Higher Secondary.

11. The General Schemes of Studies, as drafted by the Sub-Committees, were considered by the Curriculum Committee for Secondary Education on 13th & 15th July and were approved with a number of amendments. The Curriculum Committee also laid down general principles to constitute the basis on which the syllabuses in individual subjects should be framed by the Committees of Courses.

12. Diversification of courses, which was one of the basic recommendations of the Commission, necessitated the introduction of a number of new subjects and the provision of a large number of options from which the students could make their

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12. Diversification of courses, which was one of the basic recommendations of the Commission, necessitated the introduction of a number of new subjects and the provision of a large number of options from which the students could make their

choice. Appointment of 48 Committees of Courses was necessary. Some subjects were, however, combined and 41 Committees of Courses were constituted to draw up syllabuses in individual subjects.

13. As the Committees of Courses consisted of over 250 members, the venue of the meeting was shifted from Abbottabad to Peshawar, where the Peshawar University Campus could provide the required number of committee rooms, and facilities for accommodation of such a large number of members. The Committee is grateful to the Vice-Chancellor and Registrar of the University for their timely help and cooperation.

14. A joint meeting of the Committees of Courses was addressed by the Chairman of the Curriculum Committee on the 27th July, 1960 to explain the principles which should guide the Committees of Courses in their work. The Committees completed their work on the 10th August, 1960 and the Curriculum Committee shifted back to Abbottabad to re-start its work from the 14th August, 1960.

15. To save time, three Groups were constituted to examine the syllabuses in allied subjects prepared by the Committees of Courses.

These were:

(1) Mathematics and Natural and Applied Sciences Group;

(2) Humanities and Social Studies Group;

(3) Languages and Islamic Studies Group.

16. The main function of the Groups was to see that there was no over-lapping in the syllabuses of allied subjects and that the work load was suited to the age level of children and could be covered within the time allocated to each subject in the General Schemes of Studies.

17. The Curriculum Committee started consideratin of the syllabuses in individual subjects on the 19th August and finished it on the 26th August, 1960. After a short break, the work of editing the syllabuses was undertaken so as to give them a consistent and coordinated shape. An Editing Committee was set up to examine the syllabuses for each subject. It devoted about a fortnight to this work.

18. The closing session of the Curriculum Committee was held on 17th September, 1960, when it adopted the syllabuses and authorised the Chairman to write the Introduction and submit a full report to Government after making such corrections and amendments in the syllabuses and Schemes of Studies as might be necessary.

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19. In view of the large variety of subjects for which syllabuses had to be prepared, and the necessity of utilising the results of latest research on curriculum planning and methodology of teaching, the services of a number of foreign and Pakistani Consultants were utilized. The list of the Consultants is given at Appendix II. Mr. Orville Peterson of the Ford Foundation, Mr. Wm.F. Hawkins, Adviser on Technical Education, to the Government of West Pakistan under the Columbo Plan and Dr. D.A. Smith of the British Council made useful contributions to the deliberations of the Committee. Mr. Hawkins assisted the Committee continuously at all stages of its work.

20. The Curriculum Committee records its sincere thanks to the Ford Foundation, U.K. Columbo Plan, and the British Council, the International Co-operation Administration and the Inter-College Exchange Programme for placing the services of Consultants at the disposal of the Committee. The Committee is grateful to the Vice-Chancellors of the Universities, Heads of Government Departments and the Managing Committees of private colleges and schools for permitting their officers to work on and with the Curriculum Committee for such a long time.

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21. The Board of Secondary Education, Lahore placed the services of about one dozen members of its staff at the disposal of the Curriculum Committee for three months and gave other material assistance. Mr. Ala-ud-Din Akhtar, Assistant Secretary (Academic) of the Board worked as Office Secretary of the Committee. The Curriculum Committee's thanks are due to the Executive Committee of the Board.

22. Normally, preparation of curriculum and syllabuses for three stages of education and for such a large number of subjects should not take less than a year. The Committee was, however, aware of the anxiety of Government to introduce the new syllabuses from the academic session, 1961, and of the necessity of leaving sufficient margin of time for the preparation of books. Having extremely limited time at its disposal, the Committee undertook this assignment at top speed and members worked till late at night and made quick progress at all stages. It has, therefore, been possible to prepare the curriculum and syllabuses in about three months. Such exceptional speed was possible, because all the members lived together at Abbottabad, free from all types of distraction, and developed an atmosphere of common thinking

and good-will. The syllabuses in some foreign languages like Greek, Hebrew, Latin, German, Chinese and a few other subjects like tailoring, confectionary and bakery could not be prepared owing to inability to secure the necessary advice in the time allotted. This will not, however, create any difficulty in the introduction of the new curriculum and syllabuses, because the subjects, for which syllabuses are not ready, are elective, with a number of other options available to the students at every stage.

23. The report of the Curriculum Committee is in four volumes. The first volume contains the General Introduction and the Schemes of Studies for the three stages. The second, third and fourth volumes contain Schemes of Studies and syllabuses for the Middle, the Secondary and the Higher Secondary stages respectively.

24. The Schemes of Studies and syllabuses are the result of corporate effort at different levels—in the Committees of Courses, Groups and Sub-Committees of the Curriculum Committee, and in the Curriculum Committee itself. The Committees of Courses consisted of experts in individual subjects. Groups and sub-Committees comprised educationists selected on the basis of experience in allied subjects. The Curriculum Committee, as a whole, considered various problems in the broad context of national and educational needs.

25. Education is, and will always be, a subject of controversy. The members of the Curriculum

Committee and of the Committees of Courses for Secondary Education were drawn from all levels of our educational set up. They included experienced teachers and Headmasters of schools, teachers and Principals of colleges; administrative officers from the Directorate of Education; Deans of University Faculties, and each one was an expert in his sphere. In such a gathering, one would normally expect endless controversies on the numerous issues, which the Curriculum Committee and the Committees of Courses had to discuss and decide.

26. It is gratifying to record that there was full and frank discussion of every problem that came before the Committee. The members were inspired by a spirit of national service and showed an exceptional degree of readiness to consider different points of view, with a will to accept the best. The good-will and the open mind which the members, without exception, brought to bear on the performance of the task assigned to them, enabled the Committee to reach unanimity on all issues and to produce a report which should give to the country a uniform and balanced curriculum for Secondary education.

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27. The Curriculum Committee records its grateful thanks to the Government for providing the Committee with an opportunity to undertake a programme of great national importance, which is likely to conduce to national solidarity.

Taj Muhammad Khayal
Chairman

Abbottabad,
14th October, 1960.

CHAPTER I

BASIC CONSIDERATIONS IN PLANNING THE CURRICULUM

The essence of life

1. The essence of life is change. As it goes on, it conserves, in a nascent or conscious form, all that has gone before. There is no regress in nature. It cannot go back. Life is an eternally progressive process and has a forward look.

2. In its onward march, life gathers weight in the form of new knowledge, new power and new responsibilities. From the awareness of his immediate environment, man's knowledge grows into the understanding of the distant and the hidden; from a weakling and a helpless being, subdued by strong natural forces around him, he grows into a master of these forces, directing and using them to suit his wishes and needs; and, with these enhanced privileges in knowledge and power, he has a growing sense of responsibility to use these privileges (not for self interest but for service and human welfare,) not for spreading woe and destruction, but for relieving suffering and building up a happy social order.

3. Every generation of men has on its back the

weight of experience of all the generations that have gone before and, in passing away, every generation adds to this weight. By the knowledge and power that it gains, it changes the environment and these changes determine the influences that are to shape the thought and activities of future generations. New ways of living, leading to new needs, and new ways of meeting these needs, emerge. This accounts for new methods of producing the necessities of life, and new spheres of competition between individuals and their groups, which, when organized, take the form of nations.

4. Every new generation of men faces a new world, with its own problems, its own difficulties and its own spheres of achievement and pride. In the struggle for existence the nation that meets the demands of the new world, in which it is to live, survives, and survives with dignity. Those, who cannot understand and cope with these demands, go to the wall.

Preparation for life.

5. Since education is preparation for life, the contents of the educative process, must take full cognizance of the progressive nature of life, its The onward march, its forward look. It must make zed and of the knowledge so far gained, but must y. The

take into account the possibilities of knowledge that will be gained in a generation. It must give education suited to the professions and to the economic activities that are currently useful, but it must not forget that within the next ten or twenty years new means of production and new spheres of economic activity will emerge.

Education must look ahead.

6. The children for whom the curriculum is meant are to live in the society of the future. The needs of the future have, therefore, to be visualized by those responsible for the preparation of the curricu- and these needs must be suitably met. This may, sometimes, require breaking with traditions and giving up what was once useful, but has now become out-moded

7. The changing and progressive nature of life does not conflict with the appreciation and maintenance of fundamental values. The past and the present have their own place in the process of development and growth. They represent some fundamental values and characteristics of life that have stood the test of times. The adoption of a forward look must be accompanied by a careful examination of the past and present pra The so that what is useless is given up and what zed and is retained. In our anxiety to march forw. The not forget those values and characteri

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which lend continuity and stability to society.

8. It was in this spirit of preparing our children for effective living in the society of the future without giving up the values that deserve to be conserved from the past, that the Curriculum Committee for Secondary Education approached its task and it tried to maintain this balance in all its deliberations.

The Curriculum and the nation.

9. Curriculum planning is an effort at meeting the needs of society, through the development of another, perhaps more important, dynamic entity, the human personality. The success of this effort depends upon a correct understanding of the nature and needs of society as well as the nature and needs of the individual and upon their proper adjustment with each other. This requires a clear conception of the ideals that the nation holds and the type of social pattern it intends to produce. The immediate needs of the nation in respect of the training of manpower for economic development and of cultural and intellectual advancement have to be clearly understood. National resources in men and money have to be assessed. The requirements of the future have to be visualized and met in the light of the conditions of today. The

objectives of education, which constitute the basis of the Curriculum, and determined on these considerations.)

The curriculum and the child.

10. Moreover, the capacities, interests and aptitudes of children have to be carefully assessed. The process of growth through which the children pass during school days must be fully appreciated so that the tasks assigned to them at different levels of this growth suit their intellectual and emotional requirements.

11. Learning is merely a part of the life process and should be integrated with it. The individual grows through experience and his experiences are not confined only to the sphere of understanding and intellect. Experience has a wide range, including the individuals' social relationships: the expectations which others have of him and he has of others; his notion of himself in relation to the groups of which he is a member, such as the family, play-mates, class-fellows; and the different types of loves and hates that he has for things, places and persons.

12. Human personality functions as a whole and its different aspects are inseparable. If the curriculum is designed to ensure a wholesome development of the child's personality, it must take careful account of the requirements of all aspects of his personality and not only of the intellectual aspect. A full understanding of the childrens' minds and their growth is essential for curriculum planning.

Balance in the curriculum.

13. There is a third equally important task. The comparative importance of various disciplines has also to be determined. This is particularly important in the case of a nation that is trying to forge ahead in a world, far advanced in science and technology, social and economic organization and other sources of power and greatness. Pakistan has a long way to go in acquiring and making use of scientific knowledge before it can compete on anything like equal terms with advanced nations of the world in the sphere of industry and commerce, communications and technology. Such advancement depends mainly on acquiring knowledge which others are already using for their economic betterment.

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For this, a modern language, containing the results of latest scientific inventions and discoveries is essential; and the place of a foreign language in the educational system has to be defined in framing the curriculum. The comparative importance of humanities, social sciences, languages, science and technology has to be determined.

14. The task of framing the curriculum is thus long and arduous. It has to give a progressive but practicable programme, which may ensure full development of the individual and maximum advancement of society in the light of the existing conditions and within the means available for its enforcement.

The Education Commission and the Curriculum.

15. In undertaking this task, the Curriculum Committee started with a great advantage. Educational problems facing the country had already been examined by the Commission on National Education. Consisting of the leading

educationists in the country, the Commission had considered every problem from a national point of view and had laid the base of the educational structure of the future. Its report had given to the country a balanced and progressive educational system. The Commission had devoted a good deal of attention to the curriculum at the Secondary stage, which was considered to be the most critical stage of education.

16. The framework of the curriculum had been laid by the Commission. The objectives of Secondary education had been clearly defined. The importance of developing a spirit of patriotism and Pakistani nationhood had been emphasised. The place of national languages, English, Mathematics and sciences had been determined. The subjects, which were considered necessary for every student to study, had been indicated. The importance of science and technology had been emphasised. The need of bringing education close to life by an intimate association between schools and the community had been stressed. The

deficiences in some important spheres like language teaching, sciences ,art, physical education and character building had been brought out. The necessity of closing the gap between the educated and uneducated through compulsory manual work to be done by every student had been fully recognized. Diversification of courses to prepare young men for various professions and make Secondary education really terminal in objectives and functions was to be the central reform in the educational system.

17. The Commission had thus provided decisive guidance on the pre-requisites for the framing of the curriculum and the principles that should underlie it. The Commission' Report and the Government's Resolution thereon contained specific decisions on a number of questions relating to the curriculum. The Curriculum Committee tried to find the most feasible methods of giving effect to these decisions and ,in formulating its recommendations, the Committee was guided continously by the principles and national objectives laid down in the Commission's Report.

18. The Curriculum Committee has given particular attention to the Commission's directions

contained in paragraph 37 of the Chapter on Secondary Education, reproduced below:-

"Those who plan the detailed curricula must, however, resist the pressure of specialists to crowd material on their subject into the various courses and make them too difficult for the classes for which they are intended. They must provide for a proper diversification of specialist courses linked to a core of common subjects; plan the curricula of different stages so that they naturally grow out of those of preceding stages and lead naturally to those of the following stages; assign due weightage to the subjects in terms of hours of study and attainment level; indicate suitable groupings; and aim at an integrated and properly organized curriculum for the school system as a whole and for its separate parts."

Implementation of the Commission's directives.

19. The report of the Commission on National Education is a comprehensive document, dealing with all educational problems and laying down the general policy that should guide the Government and the relevant educational authorities. A comprehensive document of this type, which is designed to lay the base of the educational structure of the country, must of necessity be concerned with the general principles which have to be adopted and implemented as time and circumstances permit. Some of these Principles can be immediately carried out while others must serve as long term objectives.

20. The Curriculum Committee has adopted a realistic approach in carrying out the directives contained in the Commission's report and the Government Resolution. The existing conditions in educational institutions have been carefully considered and some recommendations of the Commission have been given full effect. Wherever it is found that the country is not yet ready for realization of an objective, the Committee has initiated the programme, recommended by the

Commission, indicating the deficiencies that stand in the way of its full implementation, and has suggested measures to remove these deficiencies. In initiating the programme, transitional arrangements have been permitted. An interim period has been allowed during which the existing deficiencies should be made up so as to enable the educational institutions to put the recommendations of the Commission into full operation within the specified time. This procedure has been followed particularly in respect of subjects like General Science and Practical Arts, which are being introduced for the first time, and for which elaborate preparation is needed in the form of properly qualified teachers and equipment.

National objectives.

21. In formulating the syllabuses, the Curriculum Committee had constantly kept in mind the following two main objectives given in its terms of reference.

(1) Realization of national objectives.

(2) Maintenance of uniform academic

standards throughout Pakistan.

22. In the light of the Commission's report, the national objectives may be summarized as follows:

(1) Production of trained manpower, educated citizenry and competent leadership for the country.

(2) Training of students to lead productive public lives and full personal lives according to their talents and interests.

(3) Maintenance of the freedom, integrity and strength of Pakistan.

(4) Preservation of the moral and spiritual values of Islam, which emanate from the concept of a universe governed by the principles of truth, justice benevolence, equality and universal brotherhood.

National assets: children

23. A nation's fate lies in the abilities and strength of character of its citizens and the children of today are citizens of tomorrow. The national objectives, if they are to be realized through education, must find expression in the personalities of boys and girls, who are the

greatest and the most valuable of national assets. Each one of them has before him infinite possibilities and any one of them may make valuable contributions to the national life that may change its future.

National assets:
patriotism and unity

24. The spirit of patriotism grows in early years through co-operative activities in different aspects of school life. With this end in view, the syllabuses for humanities and social sciences have been accompanied by lists of activities, designed to develop sound traits of character and to make learning easy and enjoyable. Co-operation with class-fellows in realising a common goal, competition to excel in achievement, respect for others' points of view and the desire to command respect from others, all contribute to the development of moral sense and spirit of self-sacrifice, which ultimately constitute the basis of nationhood and patriotism. These activities have been given due emphasis in the syllabuses of all suitable subjects.

25. Fostering national unity and spirit of patriotism, development of respect for national

ideology and culture, and a spirit of social service have been included in the objectives for the teaching of all languages. Similar objectives have been indicated for subjects like humanities and social sciences. This applies, in particular, to Social Studies, where the syllabus has been specially designed to create a sense of pride in Pakistan, appreciation of its problems and confidence in its future. It can be confidently expected that the introduction of this curriculum and syllabuses will, in a few years, bring about a substantial change in the social conscience of students and enable them to maintain a high standard of integrity and patriotic behaviour.

// **Variations in existing curricula.** curricula

26. To introduce uniform academic standards throughout Pakistan was particularly a difficult task. For the first time in the history of this sub-continent, an attempt was being made to frame the curriculum at the national level. The curricula current in different parts of the country had so far been framed by different Universities, Boards of Secondary Education and

Education Departments in their own way. Each of them had developed special features in respect of the general pattern and the emphasis on the teaching of various subjects. The contents of the subjects and the time devoted to their teaching differed. The compulsory subjects of study were not the same. The number of subjects in which a student had to appear or to pass in order to qualify for an examination showed great variations.

27. Historical forces and environment had led to the development of different specialities in various parts of the country. To illustrate, the pattern in the former Sind was, in many ways, influenced by its long association with Bombay University of which the former Sind was at one time a part. This pattern differed substantially from the one in the Universities of Panjab and Peshawar, which were, again for historical reasons, quite close to each other. Similarly, the curriculum current in East Pakistan differed from those in West Pakistan in a number of ways in respect of emphasis on different subjects, conditions for passing an

examination and so on. The educational authorities had developed different traditions. The social and economic pattern in various parts showed considerable variety. The learning of a language, which is the medium for the thought process, required a different amount of effort in various parts of the country for historical and linguistic reasons.

Natural resistance to change.

28. The Curriculum Committee had to develop a uniform pattern out of this diversity. Such an attempt must naturally involve serious difficulties. There is natural resistance to change. The system to which one is accustomed appears to be the best. Members of a composite gathering of the type of the Curriculum Committee, drawn from different parts of the country and different spheres of education - schools, Arts and Science Colleges, Teachers' Training Institutions, Education Departments and Universities - naturally tried to support the patterns to which they were used. They were also conscious of the difficulties in the way of the introduction of new experiments

in their areas. The schools would have to adjust themselves to the changes and provide necessary teaching staff and equipment. The teachers would have to prepare themselves for their new responsibilities and the students and parents would have to be enlightened to appreciate the utility of the new experiments.

Evolution of uniform pattern.

29. The requirements and the problems of all areas differing widely in academic standards, had to be kept in mind in giving shape to a uniform pattern. There was a danger that the uniform standard might be determined by the weakest. This would lower the general standard. Equally so, there was the danger that uniformity might be brought about by accepting the highest as the norm. This would be desirable, but might create insuperable difficulties for some areas. Both these alternatives would be harmful and would not conduce to the evolution of a balanced and progressive pattern.

30. Luckily, the members of the Curriculum Committee showed remarkable goodwill and understanding. They were willing to understand

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and learn by mutual discussion rather than to impose their views on others. This spirit enabled the committee to reach rational and, it is believed, sound decisions, serving the best interests of the nation. The uniform pattern that has ultimately emerged from the Committee's deliberations is rational and progressive, and is expected to meet the needs of all parts of the country.

Consideration for environment.

31. In trying to formulate the curriculum that would lead to national solidarity and maintenance of uniform standards throughout the country, the Curriculum Committee was not blind to the basic academic and educational principle of giving due consideration to the environments in which children had to pass their lives, and to the special features which had, of necessity, developed in different parts of a large country like Pakistan. That the syllabuses should be related to the environment of children is a psychological necessity. Learning is a continuous process. New facts and ideas are interpretted and learned in the light of what is already known and this knowledge is intimately related with the surroundings in which life is

passed. Living in diverse surroundings, children in different parts of the country cannot be expected to understand and appreciate exactly the same ideas, expressed in the same terminology. The ingenuity of the educational administrator and the teacher lies in reconciling the common demands of the nation and the varied environments of children.

Curriculum to be uniform but flexible.

32. The Curriculum Committee has, therefore, tried to keep a balance between national needs and demands of local environments. It is through a healthy mixture of these two that sound training of mind and character and national solidarity can be ensured. National unity will be stable if it grows out of diversity and not if it destroys diversity.

33. The Curriculum Committee has also taken care that uniformity does not deteriorate into rigidity. It is an essential characteristic of human nature that each individual is unique and his behaviour cannot always be predicted. This is the source of originality and progress. The application of rigid laws does not produce the best

results in dealing with human material. The teacher and the pupil are both independent centres of experience in themselves and need freedom for expressing and developing their personalities. (The Curriculum and syllabuses should, therefore, be flexible and leave enough freedom for the headmaster and the teachers to experiment with new techniques and to allow variation of treatment in dealing with the pupils.* For this purpose the headmasters have been given freedom to draw their own programme of work and distribute the time among different subjects according to the special requirements of their pupils, without, of course, ignoring the emphasis which the Commission had placed on different subjects like Languages, Sciences and Mathematics. They will also be free to change the allocation of time during different parts of the year to suit their needs. The time allocation, given in the Scheme of Studies, serves mainly as a basis for framing the syllabuses.

Record of Progress.

34. The institutions have also been left free to evolve their own system of examination and evaluation.

They will, however, maintain a regular record of progress in studies, behaviour, health, group activities and traits of character of each pupil. The syllabuses for the Middle stage are not directed towards a public examination at the end of Class VIII. At this level, the headmasters will have full freedom. The syllabuses for the Secondary and Higher Secondary stages are directed towards public examinations. But the certificates to be issued by the Boards of Secondary Education will have to be supplemented by certificates issued by the Heads of institutions in respect of pupils' progress, behaviour, group activities, traits of character etc., based on their school record. These arrangements are expected to give to the Heads of institutions and the teachers as much freedom and authority as can be utilised with profit in the existing conditions.

Appropriate Workload.

35. The Curriculum Committee has taken particular care to see that the workload for every class is appropriate to the mental and emotional needs of pupils. To be appropriate, a syllabus must be within the comprehension of pupils. The effort

to teach too much defeats its purpose and ends in practically nothing being taught. If the syllabus in a subject is too heavy, children develop aversion to it, because they cannot fully understand and enjoy it. (The syllabus must also give such knowledge as the children of a certain age ought to have. A balance between the capacities of children and the demands which society will make on them has to be maintained.) because

36. The apprehension of the Commission on National Education that experts are inclined to crowd material on their own subjects was justified. The syllabuses proposed by the Committees of Courses, which consisted of experts in the subjects, were really too heavy and had to be pruned twice.

37. This effort was undertaken because a heavy syllabus not only stunts the intellectual growth of children but has a great demoralising effect on them. (If a child is expected to do what is beyond his capacities, he is frustrated and is deprived of the sense of achievement and pride which are so essential for giving him self-confidence, courage and a hopeful outlook on life.

A syllabus that is appropriate has, therefore, great value in building up a balanced personality.

38. The effort at keeping the syllabus within the comprehension of children was not permitted to go to the other extreme of making the syllabus too light. The Courses of Study and educational programme must stretch the pupil's capacity to the full in order to develop a sense of effort and pride of performance. This produces the habit of sustained effort and strength of will, so essential for moral development.

Needs of the Average Child.

39. In determining the suitability of the syllabus, that it is neither too heavy nor too light, the Curriculum Committee kept the needs of the average child in mind. It can be said, and it was said in the Committee quite strongly, that such a syllabus would not get the best out of the brilliant children and would therefore not lead to the full development of their personalities. There is considerable weight in this view. In advanced countries of the world, the syllabuses are highly flexible so that children of the same age have different syllabuses, one for the brilliant,

the other for the average and still another for the retarded pupil. Such a system, however, needs not only teachers of high quality but also teachers in adequate numbers;besides, of course, the necessary classrooms and equipment. The existing conditions in our country do not permit the implementation of such a system.

Needs of the brilliant child.

40. The Curriculum Committee had, therefore, to content itself with framing the syllabuses for the average child, taking due care that they contained certain portions which only the brilliant children could attempt. When conditions in the country in respect of the provision of teachers, classrooms and equipment, may permit, separate syllabuses for different categories of children may be proposed and introduced simultaneously. But this is the expression of a hope. There is hardly any chance of such a programme being feasible in the near future.

41. Meanwhile the Committee hopes that intelligent teachers will bear the needs of the brilliant children particularly in mind and take suitable steps to see that such children make rapid progress and full use of their talents. This can be done if

the teacher assigns suitable home work to children with different capacities and guides them with care in respect of the supplementary reading that they should undertake. If suitable collections of books are available in the class and school libraries and the teachers pay due attention towards guiding children in voluntary reading and writing, a separate syllabus for the brilliant children will not be missed.

Growth of Knowledge.

42. With the growth of knowledge and progress of civilization, increase in the contents of the syllabuses is inevitable at all levels of education. As knowledge advances, scientific inventions enter into the daily life of civilized men, making it more and more complex, from generation to generation. This necessisitates a better and a more elaborate mental equipment for an educated man to enable him to participate in civilized activities and to make use of facilities and comforts, provided by science and technology. The stock of knowledge that may be sufficient for successful living in a primitive and agricultural society would be quite insufficient in an industrial society.

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43. A continuous increase in the contents of the syllabuses is all the more inevitable in the scientific age, through which we are living, because of the extremely quick pace at which knowledge is advancing and life is changing. The amount of knowledge that may have entitled a scholar to be an authority on a particular subject fifty years ago is hardly enough to enable him to understand fully the works of a specialist today in a branch of that subject. Expansion in the vocabulary of the English language in the last two centuries can provide an example which illustrates the speed at which knowledge is increasing. When Dr. Johnson compiled the English dictionary, it contained about 60,000 words. The Oxford Dictionary of the English language now contains over 6 lakh words. All the new words express new ideas which have entered into the intellectual and the practical life of the modern man. The demands of the times on the educated man are thus much more extensive in respect of knowledge than they were before. The requirements of every stage of education in respect of the subjects and their contents have therefore been rapidly growing all over the world.

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Curriculum content must be expanded.

44. As educational reforms, initiated by the Report of the Commission on National Education, are intended to meet the demands of modern times, it would be futile to expect that the curriculum and syllabuses, framed in the light of the Commission's report, would not add to the work of the student or the teacher. The Curriculum Committee makes no such claim, and expects Government, the public, teachers and students to face their additional responsibilities, resulting from changes in the syllabuses, necessitated by the much desired and long overdue educational reforms. This gains particular force because these reforms include compulsory teaching of some new subjects. In the light of the Commission's report, General Science will be compulsory for all students at the Secondary stage. Similarly, Urdu, which is not compulsory at present at the Secondary and Higher Secondary stages in some parts of the country, will become compulsory. These are unavoidable necessities in present day conditions and must add to the total content of the syllabus.

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45. The expansion of the syllabuses is a serious educational problem in all countries. The capacities of children at a certain age remain the same. The time that can be devoted during and after school cannot change. And yet, with the advancement of knowledge, the children must learn more than they did before. The additional burden can, to some extent, be lightened by rationalizing the syllabuses for the existing subjects and weeding out the unessential and outmoded portions. Such reductions, however, cannot be so substantial as to balance the additional weight.

How the problem is met abroad.

46. This situation is being met in the advanced countries of the world in two ways: first by an improvement in the techniques of teaching and secondly by provision of better and more effective teaching aids, such as audio visual aids, better arranged and illustrated textbooks, radio broadcast lessons by first quality teachers, etc. Through improved methodology of teaching and use of better teaching aids, the amount of knowledge that can be imparted within a specific time, registers a remarkable rise. But this needs teachers with a

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high quality of training and devotion to duty.

Need of trained teachers and teaching aids.

47. If the educational system in the country is to meet the demands of a scientific age, necessitating a greater amount of learning by pupils at every stage, we will have to provide well trained teachers capable of using psychologically sound techniques and the latest types of teaching aids. Without improvement in the process and the means of instruction it would be impossible to teach the students what they will need to lead fruitful lives in a scientific society. An intelligent, sympathetic and trained teacher can certainly teach more within the same time than an indifferent and untrained one, and whatever he teaches is easily understood and permanently assimilated by the pupils. If such intelligent instruction is supported by suitable teaching aids, the scope of instruction grows still wider.

CHAPTER II

STAGES OF SECONDARY EDUCATION: PROBLEMS, OBJECTIVES AND SCHEMES OF STUDIES.

The growing child.

48. The period of seven years - from the age of ten to seventeen - for which the Curriculum Committee had to prepare the curriculum and syllabuses is the most critical in the life of a human individual. In passing from class six to twelve, the student grows from a child to an adult. Physiological and psychological growth brings about important changes in his body and mind, resulting in new attitudes towards social relationships. He passes through the stage of puberty and adolescence, with their own emotional and physiological demands. His powers of understanding, concentration, memory, critical judgement and reasoning improve and expand as a result of natural growth. This expansion and improvement is enhanced by his studies in school so that, as time passes, the pupil not only has a stronger mind and body, but also a richer store of experiences to draw upon. These two factors of natural growth and learning should widen the scope of the educative process from year to year, necessitating a continuous expansion in the

courses of study and activities to be undertaken at school. This has been given due consideration in framing the curriculum and syllabuses for different years.

The three Stages of Secondary Education.

49. The physiological and mental growth of the pupil is so great as to necessitate the division of Secondary education into parts with their own specific educational objectives. The Commission on National Education divided Secondary education into three stages, the Middle stage (classes VI to VIII), the Secondary stage (classes IX and X) and the Higher Secondary stage (classes XI and XII). Each of these stages has its own specific problems and objectives.

Middle Stage: the pupil.

50. At the Middle stage the child is between the ages of 10 and 13. He desires to handle various articles to understand how they are formed. He is interested in knowing their constituents and in separating and regrouping them. He is happy to undertake various activities as exploration of the world around him. His power of concentration is not yet developed, nor has he yet acquired any

strong and stable likes and dislikes. The instinctive urges are in search of objectives round which they may be organized with a greater or lesser degree of permanency.

Middle Stage: subjects.

51. It is necessary at this stage to permit a child to undertake various activities so as to find particular directions for which his mind may be specially suited. For this reason, the number of subjects taught at this stage is the largest, so that the pupil tries a variety of experiences and learns something of every essential branch of knowledge which he will need in practical life. There is, of course, not much depth in the content of the subjects. The compulsory subjects are (1) Bengali or Urdu, (2) English, (3) Mathematics, (4) Social Studies, (5) General Science,, (6) Religious Education, (7) Art & Crafts/Practical Arts and (8) Physical Education. One or two elective subjects are also permitted. This can be an additional language like Arabic or Persian or a subject like Drawing or Music.

52. Provision has been made for seventeen practical subjects and every pupil is expected to take up at least one. Different practical arts can be taken in different years and pupils can try

their talents in various directions. Development of aesthetic sense has been emphasised by making art compulsory for every pupil. This will give them opportunities of self-expression and will lead to emotional stability.

Diagnosis of aptitudes.

53. As the Middle stage constitutes the upper part of elementary education, which will be compulsory for every citizen, the General Scheme of Studies for this stage is intended to provide the minimum knowledge and training needed by a citizen of a free country in a scientific age. The varied activities, which have been provided, are intended to discover the special aptitudes and interests of children to enable them to choose appropriate careers or subsequent courses of study. The Middle stage is, therefore, the period of diagnosis of aptitudes and interests.

Secondary Stage: the pupil.

54. At the Secondary stage, the pupil is passing through adolescence and is acquiring specific likes and dislikes for certain types of mental or physical work. His power of understanding and judgement has improved. His special aptitudes and

interests have been considerably stabilized and he is able to select courses of study according to his aptitudes. As the majority of the pupils will leave school at the end of class ten and will take up different careers, the depth of the syllabuses has been increased so as to ensure a certain minimum level of competence.

Secondary Stage: subjects.

55. This has necessitated a reduction in the number of compulsory subjects as compared with the Middle stage and provision of a wide range of elective subjects. Subjects have also been grouped to suit the personal inclinations of pupils or the careers which they may wish to take up. There is a wide variety of elective subjects from which pupils will be able to make their choice.

56. Courses of study have been brought close to the needs of practical life. They provide knowledge of socio-economic conditions in the country enabling the pupils to pass intelligent judgements on current events and on their significance to the people of Pakistan. They also include basic scientific knowledge required to enjoy and utilize the fruits of discovery and invention so as to contribute to personal and social welfare. The

compulsory subjects are (1) Bengali or Urdu, (2) English, (3) General Mathematics, (4) Social Studies, (5) General Science and (6) Physical Education. The number of elective subjects has been increased as compared with the Middle stage and every student will be required to take three to five elective papers.

Higher Secondary stage: the pupil.

57. The Higher Secondary stage is a continuation of the Secondary stage in respect of objectives and purposes, but the pupil is now almost an adult. His physique and mental powers have become stronger. He is capable of critical judgement and is inclined to have independent opinions of his own. He is, however, passing through the most critical part of adolescence. He is an adult in physique but lacks the sound judgement and stability of an adult. He wants to be free and useful to himself and society; but he is likely to misuse his freedom without wise guidance. The guidance has to be given sympathetically and unobtrusively, so that his own sense of importance is not injured and he moves on, with confidence and self-reliance, to the responsibilities of adult life as a member of some profession, or to further studies in the University. ----- ---

Final phase of General Education.

58. The Higher Secondary stage, therefore, constitutes the last step in general education and its objectives must be terminal if pupils are to assume adult responsibilities. To meet the requirements of this stage, the number of compulsory subjects has been reduced to two. Groups of elective subjects have been constituted for specific purposes so as to give this stage of education a pre-vocational character. The total number of subjects to be studied has been reduced so as to make the training in them as thorough as possible. Emphasis is more on the formation of ciritical judgement than on the acquisition of information; on the development of character through individual self-effort than on the control of the teacher; and on the understanding of social relationships by co-operative personal association.

Manual Work.

59. Manual Work for two hours a week which may be undertaken on a weekly or monthly basis, is compulsory in all the three stages. This is intended to inculcate a sense of dignity of labour and to remove the wide spread aversion

which exists in our educated classes for work that dirties the hands. This will also correct the wrong notion that manual work is something inferior to intellectual work.

Development of Character and Patriotic Spirit.

60. In all the three stages, special attention has been paid to the formation of character and to the development of a sense of civic duty, patriotism and self-sacrifice. Co-operative activities have been stressed. The Schemes of Studies are expected to provide balanced development of all aspects of pupils' personalities and to meet national needs. They are designed to combine an appreciation of the moral and spiritual values that constitute our national heritage and a progressive outlook on life, leading to the strength and solidarity of Pakistan.

Islam: the inspiring spirit.

61. And all this has been inspired by the spirit of Islam; the spirit of universal brotherhood of man, of justice, of tolerance, self-sacrifice and practical goodness. This is the spirit of Islam that is not limited to any time or clime; that inculcates those fundamental values towards which human civilization must move to realize its purpose; those fundamental

truths that underlie all natural processes and are the goal of intellectual endeavour. It is the spirit of Islam which removes all duality between mind and matter and which reconciles the demands of the body and the soul, making proper use of all aspects of the individual's life - the intellectual, the moral, the aesthetic and the spiritual - the ultimate goal of man.

CHAPTER III

LANGUAGES

Academic standards and sources of knowledge

63. One of the basic aims of educational reforms is to raise academic standards so that the products of our education may compete on equal terms with their counterparts in advanced countries of the world. Academic standards depend on the volume of knowledge and on the capacity to apply knowledge appropriately and successfully to problems and situations as they arise.

64. There are two main sources for the acquisition of knowledge. These are :-

(1) a spirit of inquisitiveness and curiosity, and

(2) command over language.

Produce in the child the desire to learn, and give him the tool of learning, namely, the comprehension and correct use of language, and he will hardly need anything else to become a scholar, if he cares to be one.

Facing Bottom

Language and Intellectual development.

65. Unfortunately, the main effort in our educational system has so far been to stock the mind of the pupil with information and not to provide him with the basic tools of knowledge. This applies, in particular, to the teaching of languages, which has not so far received the attention that it deserves. The role of language in intellectual development has not been fully appreciated.

66. Proficiency in language constitutes the basis on which the superstructure of knowledge can be raised. Language and thought are two constituents of one organic whole. They are interdependent and the development of one depends on the development of the other. Every idea finds expression in words and every word has a meaning. One cannot exist without the other. Progress in thought is not possible without an equal progress in the use of words and terms in which thought finds expression.

Language teaching: the main weakness

67. The products of our educational system do not normally have a good command over language.

This is due to cursory language teaching, which is one of the main weaknesses of our educational system. This weakness is ordinarily attributed to the compulsory study of English, which is a misunderstanding. The study of a useful foreign language is compulsory in all advanced countries of the world but the level of linguistic proficiency has not suffered on this account. It is not in English only that our standard needs to be raised. The understanding and control of our educated classes over our own languages, such as Urdu, is not quite satisfactory. It is in this sphere that particular attention and effort is required.

Defects in language teaching.

68. The main reason for our weakness in language teaching is that it is not undertaken on scientific lines. The textbooks are not well graded in respect of vocabulary and thought content. They consist ordinarily of selections from well known authors and poets and these were never intended for students. This applies, in particular, to the Secondary and Higher Secondary stages. The textbooks are not written on scientific lines, paying little heed to the mental and

emotional needs of the children for whom they are meant.

69. What applies to textbooks applies equally to the methodology of teaching. While the results of modern research are utilized to some extent in the teaching of English, instruction in our own languages is almost haphazard, depending on the personal wishes of the teacher. No systematic research has so far been undertaken in the methodology of teaching our own languages. Their vocabularies have not been graded according to their comprehensibility by pupils of different ages. The structures of the languages have not been listed and arranged in a scientific order so that learning processes may move smoothly from the lower to the higher.

Steps to improve Language teaching

70. This deficiency in our language teaching must be made up and it is suggested that Government should undertake a project for grading vocabulary in Urdu and Bengali, listing their basic structures in systematic order, and utilizing modern scientific methods in their teaching. This work can be assigned to the Training Colleges, Institutes of Education and the Education Extension Centres. Without an extensive programme of research in our languages and in the methodology of teaching, the standard of proficiency

in languages cannot improve and this deficiency will inevitably continue to affect academic standards in general.

Teaching of Arabic and Persian

71. The teaching of Arabic and Persian in our country also suffers from the same defects. In their case, the emphasis has so far been on classical literature and our students and teachers are, with few exceptions, unable to speak or write these languages in their modern forms. Some work on the gradation of vocabulary and structures of Arabic and Persian is being done in Iran and Arabic speaking countries. Graded series of textbooks are also being produced. We must make use of the efforts being made in these countries to improve the teaching of Arabic and Persian. It may be worthwhile to use the series produced in Iran and elsewhere. The syllabuses have, however, been framed on modern lines and include modern Arabic and Persian besides the classical.

72. It is also necessary for some of our teachers to be sent to the countries where these languages are spoken to study the methods of teaching and teaching materials that are being used there. Such visits will also enable our teachers to come closer to modern usages in these languages.

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Teaching of English

73. In English, we are not making full use of the results of research on the use of graded vocabulary and structures and on the methods most effective for teaching a foreign language. The textbooks that are in use are not well graded and do not aim at teaching the language for its practical utility. The element of literature in our textbooks is more than it should be. English literature is conducive to development of thought and its study is, no doubt, useful. At the Secondary stage, however, the emphasis should be on the learning of the language functionally so as to emphasize its utility in the business of daily life.

74. Teaching English as a functional language has been given sufficient emphasis in the syllabuses for English. The success of this effort will ultimately depend on the use of well graded textbooks. It does not seem possible to produce a scientifically graded series within a short time. Some series of graded textbooks in English, which are available, are the result of research and experiments carried over a number of years. At this stage, it would be worth while adapting to Pakistani conditions one such series, prepared for countries where English is not the mother tongue, and using it in our educational institutions.

Bengali and Urdu

75. Urdu and Bengali are both national languages and have the same status in national and educational life of the country. They should be used for development of patriotism and inculcation of fundamental moral and spiritual values. The national objectives for teaching Bengali and Urdu should be the same. They include:-

(a) Fostering national unity and spirit of patriotism.

(b) Developing respect for national ideology and culture.

(c) Developing integrity of character and spirit of social service.

Bengali or Urdu will be a compulsory subject for all pupils.

Syllabuses for Bengali and Urdu

76. Bengali is the mother tongue of people in East Pakistan. Preparation of syllabuses for it did not present any problem, except that there was some difference of opinion on the teaching of formal grammar separately as against its teaching on modern lines as a part of the correct use of language. This difference was however resolved by deciding not to introduce the teaching of formal grammar in class VI, but to postpone it by a year or so. There would be two papers for Bengali and both these would be compulsory.

76.
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The preparation of syllabuses for Urdu presented some problems. Urdu is not the mother tongue of all the people who are to study it as a compulsory subject. The level of teaching and of understanding Urdu in different parts of the country also varies. In some parts, Urdu literature and its intellectual background have been long familiar. In others they are just becoming familiar. In some parts, Urdu is already a compulsory subject up to the Higher Secondary level. In others, it is elective after class eight. In some schools in East Pakistan and all over West Pakistan, except the former Sind, Urdu is being used as the medium of instruction up to certain levels. In the former Sind, however, Sindhi is the medium of instruction in the majority of schools and it will be some time before Urdu can replace Sindhi in these schools in accordance with the recommendations of the Commission on National Education, contained in the Chapter on 'Medium of Instruction'. This changeover should obviously be smooth and gradual.

The Curriculum Committee attempted to evolve a rational formula for the syllabuses in Urdu which would meet the requirements of all parts of the country, and lead to rapid intellectual progress and foster national unity through encouraging common thinking.

Decisions were as follows:-

(1) There will be two papers in Urdu for all classes.

(2) One paper will be compulsory for all pupils. In place of the second paper, they will have the option of taking one paper of an elective subject, provided that in schools in former Sind, using Sindhi as medium of instruction, one paper of Sindhi will be compulsory in place of the second paper of Urdu during the transitional period required to make Urdu the medium of instruction in these schools.

(3) This transitional period is estimated to continue for some years. The teaching of Urdu as a compulsory language will start in the former Sind in Class three in 1961. It would be possible to make the Urdu medium of instruction in class six in 1964, in class seven in 1965 and progressively in higher classes. Students can be expected to take the first Secondary School Certificate Examination with Urdu as medium of instruction in 1969 and the first Higher Secondary Certificate Examination in 1971. This arrangement will avoid dislocation and inconvenience in schools in the former Sind, using Sindhi as medium of instruction.

(4) The level of understanding and teaching of Urdu varies in different parts of the country. The Boards of Secondary Education, will, therefore, decide whether one or both the papers of

Urdu should be compulsory in classes nine to twelve in their respective areas. At the Middle stage, Urdu is already a compulsory subject and medium of instruction throughout West Pakistan, except that in such schools in former Sind as use Sindhi as medium of instruction, compulsory Urdu is rather elementary. In their case, Sindhi will be a compulsory subject. No fresh decision will be required for the Middle stage.

(5) The objectives for teaching Urdu in different parts of the country should be the same. The thought content should also be the same, as far as possible, but vocabulary to be used in different areas will vary according to the capacities of children.

(6) This would necessitate the preparation of separate books for different areas.

77. The objectives of teaching the national and other languages of Pakistan have been laid down on a uniform basis, in respect of the development of Pakistani nationhood and patriotism. If proper care is taken in the preparation of textbooks and if accounts of achievements of common national heroes are given due prominence, it can be hoped that language teaching in the country will conduce substantially to the development of Pakistani Nationhood.

Alternative Easy Course in compulsory Urdu & Bengali

78. Some foreign nationals whose mother tongue is not one of the Pakistani languages may receive education in Pakistan and appear in one of our examinations. For them, the normal compulsory courses in Urdu and Bengali would be too difficult. Similarly if a student whose mother tongue is Bengali wants to study Urdu; or one whose mother tongue is not Bengali wants to study Bengali, the normal compulsory courses would not suit him. For these two categories of students, alternative courses in compulsory Urdu and Bengali, which are comparatively easy, have been laid down.

Elective Courses for Urdu & Bengali and other Pakistani languages.

79. Separate syllabuses have been framed for Urdu and Bengali as elective subjects. The national objectives are, however, the same as in the case of compulsory Urdu and Bengali, and should be given the same importance in the preparation of text-books.

Advanced courses in Elective Urdu and Bengali.

80. The syllabuses for compulsory Urdu and Bengali are meant for all pupils and should, therefore, aim at meeting the requirements of the average child. There may be some who have special aptitude for the study of languages and literature and they may wish to specialise in them in later life. To meet their requirements, advanced courses in Urdu and Bengali have been formulated. These courses are included in the elective subjects at the Secondary and Higher Secondary levels and they can be taken also by those who take these languages as compulsory subjects.

Advanced courses in English.

81. To serve the same purpose, advanced courses in English have been included among elective subjects at the Secondary and Higher Secondary stages. These will suit the needs of students, who want to undertake the special study of English at the higher stage.

Two concurrent Courses in English for Middle stage.

82. The Commission on National Education had recommended that English should be a compulsory subject from class VI onward. The Committee, however, understood that English was actually being taught in the primary classes in the majority of schools in East Pakistan and in some schools in West Pakistan. It was, therefore, decided to frame two separate syllabuses in English for classes VI to VIII, one for those who started the study of English in class VI and the other for those who had started it earlier during the primary course. The Committee believed that two separate courses in English should not be permitted at the Secondary stage. At the end of the Middle

stage students of both categories should be able to follow the same course. This was also necessary because the courses of studies at the Secondary stage are to lead to a public examination.

83. The Committee was strongly of the view that two streams of students, mentioned above, should not be permitted to study in the same schools. The syllabuses for English are therefore meant for separ institutions and no institution should be permitted to introduce both the syllabuses.

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CHAPTER IV

SCIENCE & MATHEMATICS

Science and Progress

83. Modern advances in Science have changed the life of man and given him a new civilization. They have placed in his hand tremendous powers, enabling him to control the forces of nature and change his environment to suit his needs. These powers have affected his social relationships and extended the spheres in which his loves and hates, hopes and fears find play. This civilization has brought men closer and made them more dependent on each other than they were before. Distances have been annihilated. Competition has become keener and wider. Preparation for successful living needs greater effort. Means of preservation and destruction have registered a tremendous expansion. The need of co-operation and co-ordination in utilising natural resources and helping progress and happiness is being increasingly felt. Human life, in its social aspect, is beginning to function more and more as a unit.

84. In these conditions, no nation can ignore the main source of power in the modern world, namely, scientific knowledge. Advanced countries of the world vie with one another in providing better scientific training to their citizens. It has, in fact, become

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the main condition of survival and honourable living in the comity of nations.

The Scientific Spirit.

85. The basic advantage of learning science is not so much the understanding of scientific laws and theories as imbibing the scientific spirit and developing the scientific out-look on life. This out-look constitutes the essence of modern civilization and culture and has a beauty of its own. Man, as a centre of experience, faces the demands of two worlds; a world within, comprising his thoughts, hopes, aspirations and ideals and a world without, comprising nature and society. For happy and successful living adjustment between the inner and the outer world is essential, and this adjustment results from adopting an impersonal and objective attitude in understanding and dealing with the outer world. Such an attitude of mind is the soul of science.

Essentials of Scientific Outlook.

86. The scientific outlook comprises the following:

(1) A spirit of impartial and impersonal enquiry.

(2) A desire to understand things as they are and not as one would like them to be.

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(3) Reliance on observation of facts rather than pre-conceived notions.

(4) Readiness to change one's opinion if new facts necessitate it.

(5) Willingness to consider and accept the other man's point of view if it is supported by facts.

(6) Belief that there is no finality in human knowledge.

(7) A sense of humility born of this belief.

Teachers of science can do no greater service to their pupils or to their country than to adopt and inculcate the scientific spirit and the scientific outlook. Once the pupils learn the value of making a scientific approach to the understanding of life and nature and to the solution of their problems, prejudice and superstition disappear and life becomes rational and smooth.

87. It is hoped that, if the teachers of science observe these principles, they will be true to their profession and will help people to discard superstition and prejudice by the adoption of an intelligent and rational outlook on life. This will lead to all round intellectual and social advancement of the country.

Scientific Terminology: the problem.

88. It was felt in the Curriculum Committee that

there was a sudden fall in the understanding of Science subjects by the students at the Higher Secondary level because of the change in the medium of instruction from Urdu or Bengali to English. The main reason for this fall in standards was that scientific terminology, used at the Secondary level, consisted mainly of difficult newly coined words of Arabic or Persian origin which were not current in Urdu or Bengali and which were not easily intelligible to the students. Such words were as foreign to the child's mind as English terminology without having the advantage of international usage which the latter enjoys.

Scientific Terminology: the solution

89. It was, therefore, decided that scientific terms should be translated into Urdu or Bengali only if a word, which should be an apt translation, was already current in the language. If such a word was not available, a new word should not be coined but the English scientific term should be used. It was expected that, in course of time, English scientific terms would become part of our languages since both Urdu and Bengali had exceptional assimilating capacity. The Commission on National Education was also of the view that English scientific terminology should be used in books of Science written in Urdu or Bengali. This decision should be observed in the preparation of textbooks.

General Science to be compulsory

90. The Curriculum Committee was fully conscious of the necessity of providing as much scientific knowledge and training to our youth as could possibly be done. Unfortunately the level of such training in the country is not very high and the facilities for raising it are meagre. This, however, should not deter the educationist from doing what he can to make a start.

91. For this purpose, the Commission decided to make General Science a compulsory subject of study for classes six to ten. While drawing up the syllabus for General Science, the Committee was constantly faced with the questions of lack of teachers, science rooms and scientific equipment. The number of schools that had science graduates on their staff was hardly twenty per cent. The majority of them had no science rooms nor scientific equipment that would suffice to teach the bare minimum of General Science.

General Science: Objectives

92. The objectives of General Science are as follows:

(1) To inculcate the scientific spirit and develop a scientific outlook among the students.

(2) To provide such knowledge in science as may be applicable to every day problems of

modern life and useful in dealing with them.

General Science: requirements

93. The introduction of General Science as a compulsory subject particularly in classes nine and ten is impracticable unless the following programme is undertaken as a top priority national project:-

(1) Facilities for science teaching at all levels are extended.

(2) Science graduates are produced in large numbers.

(3) Adequate training is given to science teachers.

(4) Science rooms are built.

(5) Scientific equipment is provided.

The Committee strongly recommends early adoption of such a programme and its finalisation within a period of five years.

General Science: interim programme

94. While conscious of the existing deficiencies for science teaching, the Committee has drawn up a syllabus in General Science which may suit our conditions and fulfil modern requirements. This is accompanied by a feasible programme for an interim period of five years. The interim programme

is as follows:-

(1) As conditions in the country do not permit the introduction of a full course of General Science immediately, a simpler and lighter course in respect of the content of scientific knowledge has been suggested. The utility of this course can be enhanced by emphasis on the practical applicability of scientific principles in daily life.

(2) It should be compulsory to study General Science and appear in it in the public examination. It should, however, not be compulsory to pass in it to qualify for the Secondary School Certificate, during the interim period.

(3) Practicals are an integral part of science teaching, but the majority of existing schools do not have facilities for science practicals. During an interim period of five years, the schools should provide sufficient science equipment to enable the teacher to demonstrate experiments and illustrate scientific laws. Practicals may be provided wherever possible.

(4) The examination in General Science should

have two parts Theory and Practical, but, for the first five years, the students from schools certified by the Director of Public Instruction as not having suitable arrangements for Science teaching in respect of teachers, equipment and laboratories, will have the option to answer some additional questions on theory in lieu of practicals.

(5) The textbooks in General Science, though appropriate and correct in respect of scientific knowledge, should be written in a simple, descriptive and non-technical manner, which people, who have not had formal education in scientific subjects may be able to understand.

(6) As trained science teachers are not available, and will not be available for a pretty long period, graduates in Arts subjects should be given a few months training in General Science and allowed to teach it.

(7) As there will be no public examination up to class VIII, the schools should do their best to provide practicals and demonstration lessons.

95. The programme suggested above is expected to make the teaching of General Science practicable in all types of schools. Those having science teachers, laboratories and equipment, will arrange Practicals

and their students will take these as a part of the examination; others will arrange demonstration experiments and try to provide facilities for Practicals during the period of five years.

96. The Boards of Secondary Education should make science Practicals a compulsory part of the Secondary School Certificate examination from 1967 at the latest. Passing in General Science should also become compulsory from that year. These conditions should apply to students who join the 9th class in 1965. The Boards will, however, keep these questions constantly under review and lay down these conditions earlier if circumstances permit.

Sciences as elective subjects

97. No relaxation can, however, be permitted in the teaching and examination of sciences like Physics, Chemistry, Botany and Zoology as elective subjects. at the Secondary and Higher Secondary stages. The standard of science teaching in elective subjects must be kept high and practical work should be an integral part of it. Those pupils who take up science as elective subjects will do so either because they have special aptitudes for its study; or else because they wish to take up technical courses needing scientific knowledge, or to proceed to the Universities for

engineering, medical and other science courses. In any case their training in sciences must be sound and full.

Importance of practical experiments.

98. No science course can possibly be effective unless pupils perform an adequate number of suitably graded experiments, record their observations, classify their information, and draw conclusions and inferences from their work. These are the essential points which must be emphasised in any education system which aims at training scientists. Theory & practice are inseparable. Theory attempts to explain obserable phenomena, whilst experimental work is designed to sustain or to disprove a theory; or to justify a scientific 'Law'. The pupil must draw his own conclusions from his experimental results and the function of the teacher is to exercise quiet vigilance in the background and to be available if the pupil gets into difficulties. The student should be the pioneer in his own experiment and the teacher should remain an observer.

Mathematics teaching.

99. The teaching of Mathematics has held an important place in the school curriculum because it is one of the most distinctive activities of the human mind, which has fundamental importance,

both as an intellectual discipline, and as a tool of practical application in every aspect of life.

Mathematics: a basic discipline.

100. From the time when man first learnt to count, some knowledge of Mathematics has been essential for the conduct of an ordered society. Progressively, through the ages, the scope and complexity of mathematical studies has grown so great, and its applications to daily life have become so far-reaching, that an understanding of Science & Technology is not possible without it. Mathematics is therefore required for two purposes - first for use in the everyday life of the average citizen; and secondly as a tool for the scientist, the engineer and the technician. One of them is concerned with the general function of Mathematics as it applies to the daily requirements of the individual as a member of society; the other is concerned with the special requirements of highly trained persons in science, engineering, economics and the business transactions of a modern community.

101. To meet these needs two separate syllabuses have been framed. One consists of general mathematics which covers all that is likely to be required by a

normal citizen in his routine daily tasks - and this has been made compulsory for classes six to ten. The second syllabus contains the basic mathematics needed by pupils who wish to specialise in science and technology, or who wish to study the subject because they have the necessary aptitude and liking. This syllabus in Mathematics is therefore elective in both Secondary and Higher Secondary stages.

Mathematics: applied to life.

102. Mathematics is an essentially abstract process and it is only brought to life if its practical applications are made the basis of its teaching. Children are interested in concrete things and actual experiences and this fact should be utilised in teaching them. The syllabus in General Mathematics should be treated in this way at both middle and secondary levels, and the situations of every day life should be fully utilised.

Classical Tradition in Mathematics.

103. The formal teaching of mathematics has, in the past, been based upon traditional and classical ideas which have been laid down by men of genius, and not by teachers engaged in instructing the

average pupil. This tradition has persevered unchanged for centuries, and in no aspect has it been more persistent than in the teaching of geometry. The study of Euclidian geometry has emphasised plane geometry at the expense of spatial relationships. We live in a world of three dimensions, and the emphasis on plane geometry is an over-simplification of the facts. Great emphasis should be placed on solid geometry, and this can best be done in a practical way through geometrical drawing.

Modern methods of teaching.

104. As usually taught, the subject is divided into a number of compartments - Arithmetic, Algebra, Geometry, Trigonometry and Calculus - each separate and different in method of approach. Recent research into the teaching of mathematics has shown that this treatment is wasteful in time and inefficient in its results. The best results are achieved if these parts of Mathematics are taught as constituents of an integrated course.

105. The development of an integrated syllabus on modern lines was not undertaken by the Committee because such a syllabus could only be interpreted by teachers trained in such methods and we did not

have such teachers in the required numbers. The best that could be done was to express the hope that teachers would make themselves acquainted with modern methods of handling an integrated syllabus, and interpret the syllabuses which have been provided in that light. The future of mathematics teaching in Pakistan is in the hands of the teachers, and under existing circumstances, we can only draw their attention to the desirable characteristics which ought to be introduced. A substantial part of the syllabus at the Higher Secondary level is devoted to Mechanics or applied Mathematics. Mathematics has a meaning only when it is related to physical phenomena, and this part of the syllabus should be strongly emphasised.

Applied Mathematics.

106. The syllabus in Pure and Applied Mathematics in the Technical group has been framed according to the modern principles which have been mentioned. This is experimental in nature and will apply to only a few institutions in the next year or two. The existence of two syllabuses side by side is a step in the right direction, and the results should be worthy of close study.

Geometrical Drawing.

107. A course in Geometrical and Technical Drawing has been provided at the Secondary stage which covers the elements of plane and solid geometry, and which also introduces projections and their application to simple engineering components. This course in drawing adequately meets the needs of all students of this level. Teachers with proper training in drawing are, however, not available. It is suggested that facilities for training of teachers in drawing should be improved by opening one or two special institutions for this purpose.

Engineering Drawing.

108. The Committee was of the view that Engineering Drawing should be an integral part of the pre-Engineering course at the Higher Secondary level. This was in line with the opinion expressed by the Commission on the revision of the Higher Secondary course so as to eliminate some of the work which the Engineering Colleges have to undertake in the first year.

109. Unfortunately, teachers of Engineering Drawing are not available in Higher Secondary

institutions and there are no arrangements for training them. The introduction of Engineering Drawing at the Higher Secondary stage is not, therefore, possible in the present circumstances. This has forced the Committee to decide, though reluctantly, not to include Engineering Drawing as one of the compulsory subjects for pre-Engineering course.

110. The Committee recommends that arrangements for the training of teachers in Engineering Drawing should be made immediately. As soon as properly trained teachers are available, Engineering Drawing should be made a part of the pre-Engineering course. This will be done by adding a paper or making Engineering Drawing alternative to the paper in Organic Chemistry after obtaining the advice of the authorities of Engineering Colleges.

A course in Engineering Drawing has, however, been introduced in the Technical group which adequately covers the requirements of any student of Engineering. This has been possible because the number of schools able to offer the Technical group of subjects is limited and such courses will not be commenced until suitable staff are engaged.

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CHAPTER V

SOCIAL STUDIES AND HUMANITIES

Value of humanities.

111. The scientific outlook has, no doubt, a beauty of its own. Its objective approach; its adjustment with reality have great value. Man is, however, not content with mere adjustment to something outside, which he must accept as real and against which he may feel himself as helpless. He has an inner world which is no less beautiful and real for him than the outer. This inner world often provides greater solace and happiness than that which the outer world can offer. Sometimes man accepts the world as he finds it and at others he wants to shape it according to his own ideas and desires. It is this inner urge which raises man above his surroundings and inspires him to impose his own will upon the rest of the creation, by understanding and controlling it. This aspect of man's life is for art, poetry, literature, philosophy, history and other humanistic studies to appreciate and unravel. Science must be supplemented by a study of humanities and social sciences in order to provide satisfaction to all aspects of human nature.

Social Studies: compulsory.

112. For this purpose, the study of Social Studies has been made compulsory from classes VI to X and ample emphasis has been laid on the other subjects which provide an understanding of man's social life and of his gradual progress from the life of a brute to civilized living of modern times.

An integrated study.

113. Social Studies is the understanding of the growth of man in social relationships and of his personal social problems. It has three dimensions - in time, in space, in institutions, comprising History, Geography and Civics respectively. A detailed study of all these subjects as separate entities is neither possible nor useful at an early age. Children have to face situations and problems. Education must give them adequate understanding so as to deal with these situations. Proper understanding of every problem and situation needs an understanding of a number of its aspects, historical, geographical, civic, economic, cultural and so on. Social Studies is thus taught with advantage as an integrated subject, in which the historical, geographical and other aspects of the situations and problems, which children have to face,

are explained as parts of one whole.

Basic research needed

114. Such integration, however, needs scientific analysis of these situations and problems as well as scientific analysis of the reactions of children to these situations. Unfortunately, this work has not so far been undertaken in our country and the Curriculum Committee, in spite of its best efforts, could not frame a syllabus of Social Studies as a completely integrated course. It is recommended that immediate steps may be taken by Government to undertake scientific analysis of situations and problems which have to be included in the Social Studies course, so that an integrated syllabus may be formulated at an early date. One or more officers, with special training in curriculum planning, may be deputed to do this work.

A co-related syllabus

115. Meanwhile, the Curriculum Committee has formulated a syllabus in which history, geography civics and economics have been sufficiently co-related to make the students understand present day problems facing them and their country.

Civic sense and national unity

116. The syllabus, as it stands, is expected to give to the student a knowledge of the natural resources, business and commerce of his own nation in the broad context of the world. He will have a fair idea of the forces that have shaped the life of the Muslims in the Indo-Pakistan sub-continent, leading ultimately to the creation of Pakistan as a free nation. Contents of the syllabuses and various types of activities, suggested for Social Studies and other subjects in the humanities and social sciences, are all directed towards the development of a spirit of civic duty, self-sacrifice and patriotism.

117. The student will also appreciate the value of freedom and be willing to make his contribution towards its preservation and strength. He will develop a healthy attitude towards society and appreciation of our cultural heritage, an understanding of the need for economic stability, and a respect for those who work for the strength and stability of Pakistan.

History - a developmental process

118. These objectives have also been kept in view in the syllabuses for other subjects in the Humanities and Social Sciences Group. This applies, in particular, to the syllabuses in History, which have been designed to give to the students a clear picture of the various historical forces that have had an impact on their past and are responsible for shaping their present. History has been presented as a developmental process, an understanding of customs, habits, institutions, forms of Government and other affairs of mankind, in other words, of the factors that initiated, sustained and strengthened historical movements.

Islamic History

119. These basic principles for proper understanding of historical processes have been applied, in particular, to the syllabus in Islamic History. The moral and spiritual values of Islam provide the ideology of Pakistan and occupy an important place in all aspects of our life - intellectual, social, cultural, etc. The syllabuses for Islamic History include the history of Islam upto 1258 A.D. when Muslim society and Islamic polity functioned more or less as a unit from one centre, namely, the seat

of the Caliphate. This period of Islamic History has influenced the life of Muslims all over the globe. With the fall of Baghdad in 1258 A.D. the Muslim world was split up into a large number of Muslim States and the lives of people living in different states were subjected to varying influences in the light of their historical and geographical conditions.

Islamic History and Pakistan

120. In the case of Pakistan, such influence came mainly from the course of events in the Indo-Pakistan sub-continent where the Muslims had their own period of glory and greatness. Besides the study of Islamic History up to 1258 A.D. the syllabus in Islamic History includes the history of Islam or Muslims in the Indo-Pakistan sub-continent. An interrelated study of these two histories is expected to give the students a full knowledge of the history of Islam as it has shaped their present and to fulfil the purpose of general education to be given at the Higher Secondary level. The history of the other Muslim States that rose after 1258 A.D. is a specialized study and can be undertaken more appropriately at the University stage.

A new approach

121. This approach in the presentation of Islamic History in the educational system of Pakistan is different from the traditional approach which considered Islamic History to comprise the history of Islamic people in countries like Egypt, Arabia, Spain, Turkey and Iran, and ignored the fact that history of Muslims in the Indo-Pakistan sub-continent was as much the histo[r]y of Islam as that of other countries where Muslims lived. The present approach is expected to imbue the students with the real spirit of Islam, according to which excellence as a Muslim depends upon good conduct and qualities of head and heart rather than on birth. Students of Islamic History, as now presented, will develop confidence in themselves and instead of looking for leadership to other Muslim countries, will try to lead others in the presentation of Islam.

Islamic Studies

122. The syllabus for Islamic Studies, which will be compulsory for Muslim students up to class VIII and an elective subject thereafter, has been drawn up with particular emphasis on Islam as a universal code of morality and a

progressive social order, which can meet the demands of all times. Besides inculcating faith in and reverence for God, the Quran and the Prophet, special importance has been attached to Islamic virtues, both individual and social. Stress has been laid on moral and practical goodness and not on superstitions and rituals. Sectarian controversies have been avoided.

Particular emphasis has been laid on the inculcation of Islamic virtues like truthfulness, justice, toleration, forgiveness, mercy, honesty, readiness to enforce the right and resist the wrong, simplicity, self-sacrifice, social service and the search forknowledge. Islam has been presented as a progressive social system and a universal code of morality.

CHAPTER VI

ART, CRAFTS AND PRACTICAL ARTS

Development of aesthetic sensibilities

123. A proper relationship between Science and Humanities in the educational programme will be helpful in producing a balanced outlook on life. This balance, to be complete, must be supplemented by adequate arrangements for the development of aesthetic sensibilities of children so that imagination and creative sense find scope for expression and growth. This purpose is served by the teaching of Art, which develops the capacity to create and to appreciate beauty. Art, therefore, occupies a very important place in a sound educational system. It not only provides healthy and enjoyable experiences but makes children sensitive to aesthetic values in nature, activates creative expression and enables them to exercise their imagination in the application of aeshtetic values.

Art and self expression

124. The greatest value of Art lies in the fact that it provides occasions for free self-expression. It makes the pupils think for themselves. Their minds work in a sphere where the limitations of objective

reality are at the minimum. The teacher does not control but only guides and his guidance must be so unobtrusive as not to rob the pupil of the feeling that what has been created is entirely his own. Such free expression is a great means of developing confidence as well as imagination and is of great value in lending harmony to the development of personality.

Media of self-expression

125. The aesthetic sense finds expression in different media. Painting expresses itself in line, colour and form. The various crafts such as pottery, weaving, fabric printing, basketry and leather-work, lend themselves readily to artistic self-expression and form excellent media for art studies. Teaching of Art and Crafts must, therefore, be coordinated so as to provide opportunities to children to give expression to imagination and creative sense in the form of concrete objects.

Art and Crafts - educational objectives

126. It should, however, be remembered that the primary object of Art and Crafts in schools is not the production or the training of workers. The primary purpose is educational - the training of mind

through coordination of various activities. The crafts, to be selected in schools, should offer scope for individual thinking, decoration, design and precision. If imparted on sound lines, education in Art and Crafts will develop initiative and individual thinking among students, qualities which are essential for existence in a scientific age.

Art and design

127. "It is the responsibility of education to help the people of a nation to value what is good, enduring, and ennobling in the various forms of art.... The majority of the inhabitants of Pakistan..... are not in fact surrounded by much that can be called good art. This is increasingly true as the old handicrafts which were almost invariably cast in beautiful forms and displayed in noble colour harmonies, have given place to cheap, mass-produced wares from abroad." These words of the Education Commission indicate the basic importance which must be placed upon art studies. Art and design are inseparable, and if we are to recapture the appreciation of form, colour and harmony which our ancestors possessed, we must emphasise the importance of art and design and their applications to industry. The syllabuses

in Art & Crafts should help us to achieve these aims.

Prejudice against Art

128. There is an unfortunate prejudice in the country against Art and the development of the aesthetic sense. It is for the teachers of Art to prove the value of this subject in the training of mind and remove this prejudice by a rational presentation of the value of Art.

Diversification in the curriculum

129. The most important reform in Secondary education recommended by the Commission on National Education, is the provision of diversification at classes VIII, X and XII. This was intended to eliminate the 'bookish' tendency in education, which has persisted so long, and to bring the curriculum into closer alignment with the needs of modern society. This would also help to change the general aversion to manual labour and substitute for it a wholesome respect for its dignity and true worth.

Art and Crafts and Practical Arts

130. For this purpose, the Commission on National Education had suggested making Practical Arts compulsory for every student at the Middle stage. There was, however, difference of opinion in the Committee about

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the term to be used for the subjects of a practical nature, which should be included in the curriculum of classes VI to VIII. Some of these subjects, lend themselves easily as media of self-expression. On the other hand, subjects like metal work, woodwork and other skilled crafts, needing the use of hands and tools, do not provide freedom of expression in the same sense. In such subjects, the pupils are required to work from plans and drawings which they have not the technical skill to design and draw for themselves. Subjects of the first type lay emphasis on artistic expression and the second on craft skills and interpretation of spatial relationships. Both these are equally important from the educational point of view and for the economic development of Pakistan.

131. It was, therefore, decided to introduce subjects of both types. The subjects in which artistic self-expression was predominant were given the name of Art and Crafts, whereas those in which basic craft skills were important were given the name of Practical Arts.

Rural and Urban needs

132. It was felt that children, whose background was urban and industrial, would require different experiences from those who lived in a rural and

agricultural environment. Similarly, in the same community, the requirements of girls differ from those of boys. To meet the needs of a rural population, elementary agriculture has been introduced. Home Economics is intended to meet the needs of girls in all areas.

Diagnostic Value.

133. The introduction of Practical Arts at the Middle stage has a second major purpose: provision of experiences in a variety of manual skills to find out latent capacities of pupils. A pupil, who has never enjoyed the experiences of manual skills and technical achievements, will never know whether he possesses such abilities. Art and Craft and Practical Arts serve the purpose of diagnosing the future abilities of the children.

The Secondary Stage.

134. Pupils who discover at the Middle stage that they have the necessary technical and manual aptitudes, should be encouraged to pursue such studies further. For this purpose, 'Practical Arts' has been provided as an elective subject at the Secondary stage.

135. Practical Arts subjects may be studied in

classes nine and ten either as a Group, including the basic Mathematics and Sciences needed for their proper understanding; or else as single elective subjects according to the interest or aptitude derived from experiences in the Middle stage. Pupils who complete the 'Industrial Arts' Group at the Secondary stage successfully will be well suited to enter a Polytechnic for a Diploma course in Engineering; to take up apprenticeship in industry; or to proceed to the Higher Secondary stage in any of the grouped courses. The Groups of practical subjects at this level will also provide an excellent foundation for intending teachers of Agriculture, Home Economics and Technical subjects, whilst those pupils who pass the Commerce Group will fit into the Commercial courses which are to be organized in a number of new Commercial Institutes, to be established in the country as part of the implementation of the Commission's recommendations.

Flexibility of Courses.

136. When a pupil joins the ninth class, he is too immature to make a decision which may prove to be final. The choice of industrial art or commerce at the Secondary stage is, therefore, by no means, a final form of selection. After passing the Secondary school Certificate

Examination, the pupil will be able to proceed to Higher Secondary course in one of the Groups allied to the subjects he has taken at the Secondary stage. The pupil, who has taken Commerce, may choose Languages. Humanities or Commerce Group; an Industrial Arts student may elect to take a Science Group, the Humanities or the Technical Group. The courses in Industrial Arts, and Commerce also constitute valuable courses of training for pupils who leave schools after completing class ten. Such courses have a direct vocational value and pupils who complete them successfully will take up their careers with confidence.

Higher Secondary Stage.

137. At the Higher Secondary stage special syllabuses in Groups of subjects such as Technical, Commercial, Home Economics, and Agricultural have been framed. Such courses are intended to be pre-vocational, that is, to offer a basic course of training in particular skills and techniques together with a comprehensive general education. Students completing these courses will be well equipped for further University studies in appropriate subjects if they wish to continue their formal education further. They will also be well equipped to enter teacher-training courses designed to produce specialist teachers in a variety of fields.

But the courses are also terminal, and provide a sound basis for entry into suitable employment in a society which is becoming increasingly technical. These courses in special Groups will, therefore, serve a triple purpose; they will provide a preparatory training for future specialist teachers; they will lead up to a University course if the student so desires; and finally, they will provide a terminal education of a particularly useful kind to those who wish to enter employment.

Steps to introduce Practical Arts

138. The implementation of the Commission's recommendations on the introduction of Practical Arts will require a large number of well trained teachers. This entails a major programme of teacher training in the fields of woodwork, metalwork, art and artistic crafts, home economics, agriculture and commerce. A specialized training programme of the kind which does not exist at the moment, will be required for teachers of each Practical Art. This will need the establishment of several training institutions, staffed by competent teachers and lecturers and equipped with satisfactory apparatus for practical training.

139. In order to implement training in Practical Arts, schools will require specially designed practical rooms and scales of equipment applicable to the particular craft or crafts which are studied in the school. Immediate steps should be taken

(a) to draw up Standard plans for workshops and practical rooms in schools;

(b) to draw up schedules of equipment and lists of materials required to carry out the programme of Practical Arts.

The Curriculum Committee, therefore, recommends that arrangements for training teachers and provision of the necessary equipment in schools should be made on as extensive a scale as possible with a view to introduce Practical Arts in the maximum number of schools at the earliest possible opportunity.

Music: qualifications and training of teachers.

140. Music is one of those fine arts which are enjoyed by children and which provide good media for self-expression. The value of music as a cultural and aesthetic activity cannot be denied. Its teaching in schools should, however, be entrusted

only to persons, who, besides being proficient in their art, have a certain minimum general education. This should be the Secondary School (Matriculation) Certificate in the case of teachers for Middle classes, and higher qualifications in the case of teachers for Secondary and Higher Secondary classes. At present, there are not many people in the country who combine academic qualifications with competence in music as an art. It is, therefore, necessary that a programme for the training of teachers in music should be undertaken to facilitate the introduction of this subject in schools.

CHAPTER VII

PHYSICAL EDUCATION

Physical Education - its importance

141. Education aims at a harmonious development of all aspects of human personality. The development of the body and the co-ordination of bodily activities with the working of the mind constitute an important part of general education. This will produce a harmoniously integrated person physically, mentally, emotionally and socially. Physical education should thus constitute an integral part of educational programmes at all levels.

Existing handicaps

142. Arrangements for physical Education in our educational institutions are far from satisfactory. Education is ordinarily considered to be limited to intellectual development. The demands of the body have not received sufficient importance. Good teachers of Physical Education are scarce. Playgrounds and equipment are not available in the required number and quantity. These deficiencies are a serious handicap to the full development of our children's personalities and the sooner they are made up the better.

The syllabus - a desirable ideal

143. In the existing conditions, a really effective programme of Physical Education cannot be undertaken on a large scale. There are, however, some institutions, which possess the required facilities in respect of teachers and playgrounds. It would be a pity if the syllabus for Physical Education is formulated in the light of its feasibility in the weakest schools. Such a procedure would stunt the development of even those children who are lucky enough to receive education in well equipped institutions.

144. The Curriculum Committee decided to give a full and adequate syllabus for Physical Education knowing quite well that majority of schools would not be able to implement it. The programme, outlined in the syllabus is a desirable ideal and is intended to serve as a guide. It may be adopted by schools according to the facilities available to them, aiming, of course, at a gradual improvement of these facilities so as to make this scheme a realizable programme in the near future.

145. The scheme contains some parts that may seem to be a discussion on Physical Education rather than constituents of a syllabus. This has been permitted because such parts are expected to be helpful to some

of the teachers, who are not well-versed with the basic considerations underlying a scientific programme of Physical Education.

Modern trends in Physical Education

146. The Committee is conscious that the suggested syllabus is not entirely according to the latest conceptions of Physical Education in schools. Recently, emphasis in advanced countries has shifted from command-response methods to rhythm and movements and development of free activities. The adoption of modern techniques in those countries has however been preceded by a long period of consolidation aiming at the production of Physical Education of a high quality. Such a programme needs highly qualified teachers and elaborate equipment. Our schools lack both., Even the advanced countries which have adopted the latest techniques of rhythm and free movement in their Physical Education programme have had to move with caution. Such methods require highly experienced teachers with adequate class control. The programme that has been suggested is based on this traditional pattern of educational gymnastics, modified by agility exercises, small area games, and other activities, which give a measure of free expression to the pupils. This

programme is as progressive as our circumstances can permit, but it can produce good results if teachers try to interpret and implement it properly.

Teacher - Training and other facilities

147. The Curriculum Committee strongly recommends an elaborate programme for the training of teachers of Physical Education. Their training should be co-ordinated with the training of teachers in other subjects so that they do not constitute a class by themselves, and are able to participate fully in the academic and social life of the institutions. A similar programme for the provision of playgrounds, gymnasia and other facilities is also a necessity.

CHAPTER VIII

EXAMINATIONS

Public Examinations - limitations and merits

148. Public examinations have their own limitations and merits. While they cannot replace evaluation of the teacher, who has observed the pupil's progress from day to day and week to week, the examinations provide an objective standard for comparing the merit of pupils and the proficiency of the institutions in which they study. They are particularly useful for a country where the qualifications and training of teachers differ widely from school to school and where a large number of teachers are neither properly qualified nor trained.

Public Examinations: a necessity

149. There was a strong feeling in the Curriculum Committee that the importance of public examinations at the Secondary stage should be reduced. It was, however, realised that it would not be advisable to abolish these examinations at the present stage of our educational history. A large number of our teachers are, in respect of qualifications, training and attitude towards life, not yet ready to assume the responsibilities of correctly assessing the merit and progress of students so as to provide a reliable basis both to the pupils for the selection of suitable careers, and to the

employers for the selection of a suitable person for a job. Moreover, public opinion attaches great importance to certificates issued by the educational authorities, conducting public examinations. Without a substantial improvement in the quality of teachers and a change in public opinion in favour of the evaluation of the headmasters and teachers, as against the certificates issued on the result of public examinations, the question of their abolition was purely an academic one.

Middle stage - Examination for scholarships only

150. The Curriculum Committee, however, was strongly of the view that the syllabuses for the Middle stage should not be directed towards a public examination at the end of class VIII. Such an examination, wherever held, should only serve the purpose of selecting talented students for the award of scholarships.

Experiment with selected schools

151. As regards the examination at the end of class ten, it was felt that the quality of teachers and equipment available in some of our institutions may be sufficiently high to permit reposing greater confidence in the judgement of the school authorities. The Boards of Secondary Education may, therefore, consider the desirability of permitting some selected schools

to hold their own examinations with due regard to the maintenance of academic standards. The examinations conducted by these selected schools may, subject to conditions that may satisfy the Boards, be recognized for entitlement to the certificates issued by the Boards.

Teachers' Evaluation at Higher Secondary Stage.

152. The Committee was of the view that the teachers of the Higher Secondary or the Intermediate classes deserved the same confidence that had been reposed in the teachers of Degree classes in respect of their evaluation of pupils through periodic tests. At the Degree level, 25 per cent of marks have been reserved for class work and 75 per cent for the public examination. This system has, however, not been approved by Government in respect of the Higher Secondary or Intermediate stage.

153. It was pointed out in the Committee that the Intermediate and the Degree classes have so far been parts of composite institutions, having Degree and the Intermediate classes together. The qualifications of the teachers, teaching both the stages, are the same. They are all required to hold second class Master's degrees in their subjects. The same teachers have been teaching both the Degree and the Intermediate classes. With the implementation

of the decision of the Government to physically separate the two stages of education, the Degree and the Intermediate classes will now be housed in separate institutions. The staff may also be divided. This does not, however, change the fact that the teachers of both stages will, in respect of qualifications and attainments, be similar.

154. The Committee felt that a request to Government to reconsider its decision in respect of the system of examinations and evaluation at the Higher Secondary stage so as to bring it in line with Governmen's decision on this issue for the Degree stage would not be unjustified. Government may wish to reconsider the question so that the students attach importance to periodic tests held by the teachers of Higher Secondary classes and form the habit of regular sustained work throughout the year.

Improvement needed.

155. The existing system of examinations needs improvement. They are held at the end of two years. Students and teachers do not pay full attention to their work throughout this period. They put in hard work just a few months or sometimes a few weeks before the examination.

Public Examinations in two parts.

156. The Curriculum Committee, therefore, decided that the Secondary School Certificate Examination and the Higher Secondary Certificate Examination should both be held in two Parts. The first Part will be held at the end of classes nine and eleven and the second at the end of classes ten and twelve.

The advantages.

157. This will serve two purposes: (1) it will encourage sustained effort over two years, (2) it will reduce the burden on students, resulting from one examination in all subjects at the end of two years. The decision to divide these examinations into two Parts was also considered useful because the new curriculum has added to the number of subjects and papers in which these examinations are at present conducted.

158. There is great variation in the number of subjects and papers in which a student is to appear in the Secondary School (Matriculation) Examination of the different Boards and Universities in Pakistan. The variation ranges from 7 to 12 papers in different educational authorities.

Board of Secondary Education, Karachi:	7 papers.
Sind University:	8 papers.
Board of Secondary Education, Dacca:	9 papers.
Board of Secondary Education, Lahore:	10 papers.
Peshawar University:	12 papers.

Subjects and conditions for passing.

159. The Curriculum Committee has recommended ten papers for the Humanities and Science Groups and eleven papers for other Groups, which are of a pre-vocational and technical nature, and need an additional paper to serve these specific purposes. It will, however, not be necessary to pass in all the papers. A candidate passing in eight papers, mentioned in the General Scheme of Studies, will qualify for the Secondary School Certificate. Students will appear in four papers out of ten or eleven at the end of class nine and in six or seven at the end of class ten.

160. At the Higher Second ry level there is greater uniformity. Students have to take eight or nine papers. As Urdu has been made compulsory,

the Scheme of Studies, recommended by the Curriculum Committee has five subjects, comprising two papers each. Students will have to pass in all the subjects so as to have a thorough preparation for life or for the University course. Three papers will be taken at the end of class eleven, and seven at the end of class twelve.

161. There will be no break in studies at the end of class nine or eleven. Students will continue attending classes while waiting for the result of the examination of Part I. Those who pass in at least two papers in Part I will continue in classes ten and twelve; others will be detained and will have to repeat the examination in Part I.

Secondary School Certificate Examination: Part I.

162. While there was full agreement in including four papers in the Secondary School Certificate Examination Part I, to be conducted at the end of class nine, there was acute difference of opinion on what these subjects should be.

163. It was argued that subjects in which some sort of skill was to be developed should be taught continuously for two years and examined at the end of class ten. For instance, in typewriting, art and physical education an examination at the end of class nine would not be advisable. It was further stated that languages like English, Urdu and Bengali were

also 'skill' subjects, because they developed power of comprehension and expression. Although there were too separate papers in these subjects both of them should be examined at the end of class ten.

164. The other view was that syllabuses had been framed on a two-year basis. If examination at the end of class nine was held in subjects having only one paper, they would have to be given double the time during the year, thereby reducing the time available for the other subjects. This might mean that some subjects would not be taught in class nine at all. A gap of one year in studies would affect academic standards. To overcome this difficulty, subjects having two papers might be selected for examination at the end of class nine, so that one paper is taught and examined in class nine and the other in class ten. As English and Urdu/Bengali had two papers each, one paper might be examined at the end of class nine.

165. The supporters of the first point of view argued that one paper of English and Urdu/Bengali comprised functional language - grammar, composition, translation, etc., which should not be examined half way through the course. The other paper comprised reading material which could not be covered in one

year. So the four papers to be included in Part I of Secondary School Certificate Examination should not include English and Urdu/Bengali.

166. It was stated from the other side that the school week comprised 45 to 47 periods only. If one paper each of English and Urdu/Bengali were not included in Part I of the examination, 32 of the 45 to 47 periods would have to be devoted to the subjects to be finished in class nine. The remaining 13 to 15 periods would be devoted to English and Urdu/Bengali. This would leave no time for any other subject, not even for Physical Education, which was so important for maintenance of health. 'Skill' subjects like Practical Arts, Fine Arts, Typewriting, etc., would also not be taught in class nine and would start in class ten. This would reduce the period of practice in the relevant skills to one year instead of two, breaking continuity in their study. Besides being academically unsound, it would defeat the verv purpose for which 'skill' subjects were excluded from the Secondary School Certificate Examination Part I. If examination in one paper each of English and Urdu/Bengali was held at the end of class nine, dislocation in the time table would be avoided, because

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these subjects would not need any time, additional to their weekly allocation. The two papers in these languages could be so arranged as to include half reading material and half functional language in one paper and half in the other. Students would be relieved of half of the course in one year.

167. It would, therefore, be appropriate to include in Part I of the Secondary School Certificate Examination one paper each of English, Urdu/Bengali, and General Mathematics and Social Studies.

168. After a long discussion, it was ultimately decided that the Secondary School Certificate Examination Part I should comprise one paper each of General Mathematics, and Social Studies and two more papers, other than 'skill' subjects such as Languages (English, Urdu/Bengali), Drawing, Art, Practical Arts.

System of examinations - evaluation.

169. The existing system of examinations needs improvement. It should aim at testing understanding, intelligent observation and coordination.

power of reasoning and critical judgement, and not only the amount of information and knowledge of facts. Mere cramming should not be permitted to lead to success.

170. Instruction in educational institutions and examinations conducted by the Boards of Secondary Education, should aim at fulfilling the spirit of the syllabuses. While instruction should be based on the syllabuses, the examination should grow naturally out of instruction as its culmination. The syllabuses, instruction and examinations should, therefore, be closely related so as to constitute parts of one integrated process.

171. For this purpose, the Boards of Secondary Education should set up special sections in their offices to examine carefully how far their system of examinations fulfils the purpose of a rational test of the ability of students, and is coordinated whith instruction and syllabuses.

CHAPTER IX

RESPONSIBILITIES OF GOVERNMENT AND TEACHERS.

Curriculum cannot rise above the teacher.

172. The curricula and the syllabuses define the task of the teacher and the student. In itself a syllabus is a dead letter. The teacher puts life into it. It has a meaning and a purpose but the meaning and the purpose, which the Curriculum Committee has assigned to it, are not so important. What is important is the meaning and the purpose which the teacher will give to the syllabus according to his lights. In understanding and interpreting it, the teacher may make it a live programme, full of interest and activity, or a lifeless process which the pupils have reluctantly to go through.

173. Like the system of education in general, the curriculum and the syllabuses cannot rise above the teachers who are to carry them out. This places a very heavy responsibility on the teachers. The future of the country depends on the way in which the teachers fulfil this responsibility.

Respect the child.

174. The most important of these responsibilities is the respect that should be paid to the child, whose

full development is the ultimate end of the educational system, and lends purpose to the teacher's life. To fulfil this responsibility, the teacher must realize that a harmonious development of personality and strength of character depend, not on knowledge, but on the totality of one's experiences. Thought, feeling and action are inseparable constituents of mind. They may be distinguishable but are not separable. Their development is simultaneous and interdependent. The child learns by doing and shows better achievement in practical activity through understanding. Emotional complications affect his achievement in the spheres of thought as well as action. In their turn, frustration and success in intellectual and practical work sometimes cause, and sometimes resolve, emotional troubles. The essential point in helping the growth of children in proper directions is to appreciate and respect all aspects of their lives. In determining the traits of character, experiences of early childhood are, no doubt, the most effective. The role of the community in this respect is also important.

175. But the schools have also a most significant part to play in building up the childrens' character by bringing out their mental and moral potentialities. For this purpose, the curriculum has to go far beyond mere instruction to which it has so far been confined in our country. It must cover all the experiences ....

of children in school and must attach high importance to learning through activities rather than through books. Such learning is not considered to be a duty and a burden. It is enjoyed and what is learnt is not easily forgotten.

176. As stated already, growth of knowledge inevitably necessitates an increase in the content of the syllabuses at all stages of education. If the content does not increase the educated citizens are not able to make use of the latest scientific inventions that enter into the daily life of the people, nor are they able to handle the new inventions as technicians. Addition to the syllabuses, in the present case, is also necessitated by the educational reforms, recently approved by Government. The Curriculum Committee has, therefore, tried to improve the syllabus in quality as well as in content. It is hoped that they are more rational but it is also true that they are heavier.

New Responsibilities of the teacher.

177. This assigns new responsibilities to teachers. A heavier syllabus and a greater respect for the child's personality will necessitate for the teacher harder work and a new attitude towards his profession. Most of the teachers are known to be indifferent to regular study in the subjects

they teach. Their knowledge seldom goes beyond what they learnt during their own college days or training. This state of affairs will have to be changed and teachers will have to form the habit of studying up-to-date literature in their respective subjects, and keeping themselves abreast of the times. They will know how to use the latest and the best teaching aids.

Government's task - training of teachers.

178. The new curricula and syllabuses also assign a task for the Government. The extent to which the teachers' efforts can make the new curricula and syllabuses really effective is limited. Numbers of them do not possess the qualifications required for understanding the full import of the new educational outlook, defined by the Commission on National Education, to which the Curriculum Committee has given the form of the curricula and syllabuses. A large number of teachers have not received the necessary training. Those who were lucky to be trained, have not had the benefit of refresher courses, and their knowledge of techniques of teaching is old,

some times very old. Government must undertake an extensive programme of teacher training and refresher courses if education is to make head-way. The teacher is the soul of the educational system. Let it be a live soul..

The programme of teacher training will need careful planning. The shortage of qualified and trained teachers in different subjects will have to be assessed. In the case of new subjects like Practical Arts and Home Economics, where the training of teachers needs foreign assistance and where the introduction of the subject needs imported equipment, the training programme will have to be undertaken according to the availability of expert advice and equipment. The teachers' Training Colleges will also have to adapt their methodology to modern techniques and lay greater emphasis on the use of modern teaching aids, and their improvisation through available local material. Such an approach will have educational as well as economic value for the country.

Government's task - provision of teaching aids.

179. Careful investigation and research into the abilities of children have proved that the amount of information and knowledge, that children are able to absorb and assimilate, depends to a

considerable extent on the techniques of teaching. With the improvement of teaching aids and techniques of instruction much greater knowledge can be absorbed in a specified time.

180. The Curriculum Committee is strongly of the view that the amount of knowledge which an educated citizen needs, to meet the demands of a scientific society, can only be given to the pupils if teachers of good quality are provided and effective teaching aids - charts, graphs, maps, films, radio and other mass information media - are placed at their disposal. If the means of instruction are not improved in these two directions, the curriculum and the syllabuses will remain a dead letter in the case of most schools, and educational reforms will hardly serve their purpose.

181. Considering the importance which has been attached to education by the present regime, the Curriculum Committee has no doubt that our educational system will not remain without a soul and that the curriculum and the syllabuses will not remain a dead letter.

To meet additional needs.

182. Besides taking steps to improve the quality of teachers the Departments of Education will also have to pay special attention to the additional requirements of teaching staff, accommodation and equipment, necessitated by the introduction of new subjects in their respective areas.

CHAPTER X

TO CONCLUDE

To conclude.

183. The Committee undertook its task in a spirit of national service. It considered all problems from a realistic but a progressive point of view. Its deliberations were inspired by enthusiasm for the nation's future. The members had all one desire - to weld the nationa into one strong unit by producing a curriculum that would bring about the widest common thinking, common hopes and common aspirations among the youngsters.

184. The Committee tried to ensure that the curriculum was not theoretical. No system of education can succeed in the present day conditions, if it restricts itself to theoretical knowledge. It must prepare students to discharge their individual and social responsibilities, to cooperate in social effort in a spirit of service, to respect the rights of others as much as their own, and to contribute to the wealth and strength of the nation. The syllabuses we have framed are designed to develop in the citizens a rational and objective outlook on life, make them

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conversant with conditions in their own country as compared with those in others, enable them to participate in economically useful activities, and to utilize the skills and knowledge, which latest developments in science and technology can place at man's disposal. The future products of our educational system will, we hope, be conscious of the moral and spiritual values to be conserved from their national heritage and be capable of translating these values into those activities and institutions, which are required in a world changing fast under the impact of power, resulting from the control of nature's forces. It is our hope that such a citizenry will build up a strong Pakistan that will not look to others for leadership in knowledge and power, but will herself occupy an honoured place among the leading nations. We believe that the curriculum and syllabuses, that we have worked on, will lay the foundations for the training of such citizens.

<u>No finality in Curriculum.</u>

185. Growth of knowledge, particularly in the sphere of science and technology, brings about social changes and a progressive system of education must adjust itself to meet these changes. This necessitates a dynamic approach to the curriculum which must be progressive to meet the ever changing demands of times. No curriculum, however, carefully framed, can, therefore claim finality in any sense.

A new experiment.

186. This applies in particular to the recommendations being submitted herewith. The curriculum has been framed at the national level for the first time. A uniform pattern has been shaped out of diversity. It is naturally an experiment. After its introduction, it must be kept under constant review so as to ensure its continuous improvement, and to remove any difficulties that may be met in giving it effect.

Constant review necessary.

187. The Education Departments and the Boards of Secondary Education should, therefore, be advised to create permanent sections to keep an eye on the functioning of the schemes of studies and the syllabuses and to suggest necessary improvements in the light of actual experience. This work should be in the hands of whole time officers, preferably those who have had regular training in curriculum planning and who are fully conversant with its problems.

188. The Curriculum Committee is aware of the desire of Government to raise academic standards and improve education in the country. Serious deficiencies in our educational institutions in respect of qualified and trained teachers, accommodation, equipment, playgrounds, hostels, stand in the way

of this improvement. Curriculum and syllabuses for Secondary Education are being submitted with the hope that these deficiencies will soon be made up.

189. May the schools live for ever, spreading light and learning! May the cause of education thrive! May God bless those who help this cause! Ameen.

Taj Muhammad Khayal
CHAIRMAN.

Abbottabad.
12th October, 1960.

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GENERAL SCHEME OF STUDIES FOR MIDDLE STAGE

Classes VI to VIII

INTRODUCTION

The General Scheme of Studies for the middle stage is intended to provide the minimum knowledge and training needed by a citizen of a free country in a scientific age. It will also provide a variety of activities through which the special aptitudes and interests of children may be discovered to enable them to choose appropriate careers or subsequent courses of study. The scheme is designed to combine an appreciation of the moral and spiritual values that constitute our national heritage and a progressive outlook on life, leading to the strength and solidarity of Pakistan.

The curriculum and the syllabuses for the middle stage are not primarily directed towards a public examination at the end of class VIII, but can, however, form the basis of such an examination. The Headmasters and the teachers will, therefore, have sufficient freedom to work out their own programme of work and system of evaluation. They will, however, maintain regular records of progress in studies, behaviour, health, group activities and traits of character of each pupil. Reports of periodic evaluation and examination shall be sent to the guardians and a report containing a cumulative record shall be made available at the time when the pupil leaves the school.

The school week will comprise 45 to 47 periods of forty minutes each.

MS/General Scheme of Studies

SUBJECTS OF STUDY

There will be eight compulsory subjects, besides Manual Work and the use of hand tools. There will, in addition, be one or two elective subjects.

I. Compulsory Subjects.	** Suggested number of periods per week
*1. Urdu or Bengali	8
2. English	8
3. General Mathematics	7
4. Social Studies	5
5. General Science	5
6. Religious Education	3
7. Physical Education	2 or 3
8. One of the subjects listed under (1) and (2) below:-	4

***(1) Art and Crafts.

(a) Clay modelling.

(b) Toy-making

(c) Basketry

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* In schools in former Sind, using Sindhi as medium of instruction, Sindhi shall be a compulsory subject during the transitional period & half the time meant for Urdu shall be devoted to Sindhi.

** The syllabuses in various subjects have been prepared, on the basis of the allocation of time. The schools will, however, draw their own programme of work according to the peculiar needs of their students without changing the general pattern indicated in the suggested allocation. Schools can vary the time for different subjects in different parts of the year. The emphasis on the teaching of compulsory subjects at No.1 and 2 should not be ignored.

*** Out of these four periods, one is meant for Art, but it will not be necessary to maintain this allocation rigidly.

(d) Pottery

(e) Fabric printing

(f) Leather work

(g) Puppetry

(h) Bookbinding

(i) Weaving

(j) Cane and bamboo work

(k) Such other crafts as may be prescribed.

* (2) Art and Practical Arts.

(a) Woodwork

(b) Metalwork

(c) Applied Electricity

(d) Agriculture & Gardening.

(e) Fish culture

(f) Pottery

(g) Home Economics

(h) Such other practical arts as may be prescribed.

II. Elective Subjects.

One or two of the following subjects :-

1. Arabic.
2. Art.
3. Bengali
4. Dancing

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* One period per week will be devoted to Art and three periods to Practical Arts.

5. Gujrati.
6. Music.
7. Pali.
8. Pashto.
9. Punjabi.
10. Persian.
11. Sanskrit.
12. Sindhi.
13. Urdu.
14. Such other subjects as may be prescribed.

Provided that where two elective subjects are taught, only one of these shall be a language.

Provided further that the language studied, as a compulsory subject, shall not be taken as an elective.

Four periods per week are suggested for one elective subject. Where two elective subjects are taught, the total time for both shall not exceed 6 periods per week.

III. Manual Work.

72 periods per year shall be compulsory. The programme of manual work shall be undertaken on a weekly or monthly basis and shall be organized by the school in the light of local conditions.

GENERAL SCHEME OF STUDIES FOR SECONDARY STAGE.

Classes IX and X

"The General Scheme of Studies for the Secondary stage constitutes a basis for providing 'trained manpower, educated citizenry and competent leadership' to the country." At this stage the special aptitudes and interests of pupils are considerably stabilized and they are able to select courses of study according to their special aptitutdes. The number of compulsory subjects has, therefore, been reduced as compared with the Middle stage and a wide range of elective subjects has been provided. Pupils will be able to choose from a wide variety of elective subjects and pre-vocational groups of subjects, designed to suit their personal inclinations or the careers which they may wish to take up.

2. "As the Secondary stage is terminal for the majority of pupils, the courses of study have been brought close to the needs of practical life. They provide the knowledge of socio-economic conditions in the country, enabling the pupils to pass intelligent judgements on current events and on their significance to the people of Pakistan. They also include basic scientific knowledge required to enjoy and utilise the fruits of discovery and invention so as to contribute to personal and social welfare."

3. The scheme pays special attention to the formation of

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character and development of a sense of civic duty, patriotism and self-sacrifice, so essential for a country trying to forge ahead in the face of keen international competition in every sphere.

4. The curriculum and syllabuses for the Secondary stage constitute one whole, but are directed towards a public examination to be held in two parts at the end of classes IX and X, without a break in studies after the examination of class IX. Success in the examination will be determined by the student's achievement in both the parts taken together.

The Headmasters and teachers will, however, maintain regular records of progress in studies, behaviour, health, group activities and traits of character of each pupil. Reports of periodic evaluation and examination shall be sent to guardians and a certificate containing cumulative record shall be made available when the pupil leaves the school. This will supplement the certificate issued by the Board of Secondary Education concerned.

5. The school week will comprise 45 to 47 periods of 40 minutes each.

6. SUBJECTS OF STUDY.

There will be 5 compulsory subjects. Study of science shall be compulsory for every student. Those

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who do not choose to study Physics and Chemistry as elective subjects, shall have to take up one paper of General Science. The compulsory subjects will, therefore, comprise 6 or 7 papers of 100 marks each. The elective subjects will comprise three to five papers carrying 100 marks each according to the nature of the Group of elective subjects taken by a student. There will be a total of 10 or 11 papers carrying 1000 or 1100 marks for purposes of examination. Physical Education and Manual Work will be compulsory in addition.

7. COMPULSORY SUBJECTS.

(1) Urdu or Bengali. 200 marks

(a) Six periods per week shall be devoted to its teaching.

(b) There shall be two papers carrying 100 marks each.

(c) In the case of Bengali both papers shall be compulsory.

(d) (i) In the case of Urdu one paper shall be compulsory for all pupils.

(ii) The second paper in Urdu will not be compulsory and students will be permitted to take up a paper from the elective subjects in place of the second paper of Urdu, provided that students in such schools in the former Sind, as used Sindhi as medium of instruction, will take up one compulsory paper of Sindhi in place of second paper of Urdu during the transitional period required to make Urdu the medium of instruction in these schools.

(iii) The language to be used for the Urdu courses in different areas will be different to suit the needs of each area. The objective of teaching Urdu as a language, will, however, be the same and the thought content of the reading material shall be directed towards the realization of the common objective.

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(iv) The Boards of Secondary Education will decide whether there should be one or two papers of compulsory Urdu in their respective areas.

(e) The objectives for the teaching of Bengali and Urdu would be fostering national unity and developing sound comprehension and correct use of language. While study of suitable literature will constitute an integral part of the Bengali course; in the case of Urdu, it may be introduced in an elementary form in different areas according to their special requirements.

(f) The Boards of Secondary Education will have the books written, according to the syllabuses, for the areas under their jurisdiction so as to ensure that books for each area suited the power of comprehension of the pupils.

(g) Students who are not Pakistani nationals or whose mother tongue is Bengali will have the option of an alternative easy course in Urdu. Similarly, students who are not Pakistani nationals or whose mother tongue is not Bengali will have the option of an alternative easy course in Bengali.

(2) English. 200 marks

(a) Nine periods per week will be devoted to its teaching.

(b) There will be two papers carrying 100 marks each.

(c) The purpose of teaching English will be comprehension and correct use of language and not literature in the formal sense.

(d) The first paper will be a paper on functional language.

(e) The second paper will consist of reading material and text-books will comprise straightforward modern English rather than literature. Stories, travel and adventure, biography, simple poems and writings on scientific subjects and humanities would be appropriate for inclusion in the reading material.

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(3) Social Studies. 100 marks

(a) Four periods per week will be devoted to its teaching.

(b) There will be one paper carrying 100 marks.

(c) Social Studies will be an integrated course, mainly based on History, Geography and Civics, providing basic knowledge about economic, social, industrial and cultural conditions in the country.

(d) The objective of this course will be the promotion of good citizenship, patriotism, a sense of national values and human relations.

(4) General Mathematics. 100 marks

(a) Six periods per week will be devoted to its teaching.

(b) There will be one paper of 100 marks.

(5) General Science. 100 marks

(a) Five periods per week will be devoted to its teaching.

(b) There will be one paper of 100 marks.

(c) This paper will not be taken by those offering Science, Industrial Arts, Home Economics, and Agriculture Groups.

(6) Physical Education.

(a) Three periods per week will be devoted to it.

(b) It should consist mainly of physical training but the value of physical exercises should be explained to the students. Programme of Physical Education for girls should suit their requirements.

(7) Manual Work.

( ) This should be given two hours per week, but the programme may be undertaken on weekly or monthly basis; subject to the condition that 72 hours are devoted to manual work during

the year. These will be in addition to 45-47 periods per week, which are formally to be provided in the time table.

8. Elective Subjects.

(1) In addition to the compulsory subjects, students shall take up:

Subjects carrying 300 marks from the Humanities Group so as to make a total of 1000 marks.

OR

Subjects carrying 400 marks from the Science Group so as to make a total of 1000 marks.

OR

Subjects carrying 400 marks from the Commerce Group so as to make a total of 1000 marks.

OR

Subjects carrying 500 marks from one of the following Groups:

(a) Industrial Arts Group,
(b) Home Economics Group,
(c) Agriculture Group,

so as to make a total of 1100 marks.

(2) Time for Groups of Elective Subjects.

(a) 13 periods per week in the case of:-

(i) Humanities Group
(ii) Commerce Group

And

(b) 18 periods per week in the case of:-

(i) Science Group

(ii) Industrial Arts Group

(iii) Home Economics Group and

(iv) Agriculture Group

Provided that four periods per week shall be devoted to Mathematics (Elective).

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9. Groups of Elective Subjects:

(1) HUMANITIES GROUP

		Marks
(a)	Mathematics OR Household Accounts and Related Problems (for Girls)	100
(b)	History	100
(c)	Geography	100
(d)	Islamic Studies	100
(e)	Art	100
(f)	Geometrical and Technical Drawing	100
(g)	One of the following languages having two papers:	
	(i) Arabic	200
	(ii) Greek	200
	(iii) Hebrew	200
	(iv) Latin	200
	(v) Pali	200
	(vi) Persian	200
	(vii) Sanskrit	200
	(viii) Such other languages as may be prescribed.	
(h)	One of the following languages having one paper.	
	(i) Bengali (For those who have not taken up Bengali as a compulsory subject)	100
	(ii) Bengali (Advanced)	100
	(iii) Chinese	100
	(iv) English (Advanced)	100
	(v) French	100

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		Marks
(vi)	German	100
(vii)	Gujrati	100
(viii)	Hindi	100
(ix)	Japanese	100
(x)	Panjabi	100
(xi)	Pashto	100
(xii)	Sindhi	100
(xiii)	Spanish	100
(xiv)	Turkish	100
(xv)	Russian	100
(xvi)	Urdu (for those who have not taken up Urdu as a compulsory subject)	100
(xvii)	Urdu (Advanced)	100
(xviii)	Such other languages as may be prescribed	
i)	Physiology and Hygiene	100
j)	Health and Physical Education	100
k)	Civics	100
l)	Elementary Economics	100
m)	Music	100
n)	Outlines of Home Economics	100
o)	Such other subjects as may be prescribed for a transitional period of three years to meet the needs of High Madrasas in East Pakistan	
p)	Such other subjects as may be prescribed	
q)	One paper, carrying 100 marks, on a subject not included above, from any other Group.	100

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(2) SCIENCE GROUP — Marks.

	Marks.
(a) Mathematics	100
(b) Physics	100
(c) Chemistry	100
(d) One of the following:	
i) Biology	100
ii) Physiology and Hygiene	
iii) Geometrical and Technical Drawing	
iv) Geography	
v) One paper carrying 100 marks on a subject not included above, from any other Group	

(3) COMMERCE GROUP

(a) Business Methods and Correspondence	100
(b) Commercial Geography. (*)	100
(c) Arithmetic and Book-keeping.	100
(d) Type-writing.	100

(4) INDUSTRIAL ARTS GROUP

(a) Mathematics	100
(b) Physics	100
(c) Chemistry	100
(d) Any two of the following:	200
i) Metalwork	100

(*) In place of Commercial Geography, students can take one paper, carrying 100 marks, on a subject not included above, from any other Group.

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		Marks.
ii)	Woodwork	100
iii)	Applied Electricity	100
iv)	Pottery & Ceramics	100
v)	Leather-work	100
vi)	Ornamental Arts and Crafts	100
vii)	Weaving	100
viii)	Building construction	100
ix)	Geometrical & Technical Drawing	100
x)	Bamboo and Cane Work	100
xi)	Tailoring	100
xii)	Confectionary and Bakery	100
xiv)	Such other subject as may be prescribed	100

(5) HOME ECONOMICS GROUP

(a)	Chemistry, Physics and Biology	100
(b)	Food and Nutrition	100
(c)	Clothing and Textiles	100
(d)	Family Living	100
(e)	Home Management	100

In place of paper (b) or (c) or (d) or (e) a student may take up one paper carrying 100 marks from any other Group.

(6) AGRICULTURE GROUP

		Marks.
(a)	Physics	100
(b)	Chemistry	100
(c)	General Agriculture including soil	100
(d)	(i) Elementary Botany, Horticulture and Gardening (50 marks) (ii) Elemetary Zoology, Animal Husbandry & Fisheries (50 marks)	100
(e)	Mathematics or a paper, carrying 100 marks, not included in this Group, from any other Group	100

10. EXAMINATION

(1) The Secondary School Certificate Examination shall consist of two Parts.

(2) The Secondary School Certificate Examination Part I shall be held at the end of class IX and Part II at the end of class X.

(3) The Secondary School Certificate Examination Part I shall comprise:-

(a)	General Mathematics*	One paper	100
(b)	Social Studies*	One paper	100
(c)	Any two papers*, carrying 100 marks each, other than skill subjects enumerated below:		200

i) English.

ii) Bengali or Urdu including Sindhi as an alternative to Urdu Paper II.

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* The time allocation for individual subjects, given in the Scheme of Studies is on the basis of a two year's programme. Where a subject is to be completed in class IX or class X only, it will receive double the time and the time table will have to be adjusted

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iii) Practical Arts

iv) Type-writing

v) Art

vi) Geometrical and Technical Drawing

Total - 400 marks

(4) The Secondary School Certificate Examination Part II shall comprise:-

(a) Bengali or Urdu, including Sindhi in place of Urdu Paper II.

(b) English.

(c) Two or three more papers so as to make a total of [illegible] in the case of Humanities and Science Groups and 1100 in the case of:-

i) Commerce Group

ii) Industrial Arts Group

iii) Agricultural Group

Provided that Part I and Part II of the Secondary School Certificate Examination in Home Economics Group shall be as follows:

Part I

			Marks.
(a)	General Mathematics	One paper	100
(b)	Social Studies	One paper	100
(c)	Chemistry: Theory 35) Practical 15)		50
(d)	Clothing and Textile	One paper	100
(e)	Home Management	One paper	100
		Total -	450

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GENERAL SCHEME OF STUDIES (CONTD)

Part II.

		Marks.
(a) Bengali or Urdu including Sindhi in place of Urdu Paper II	Two papers	200
(b) English	Two papers	200
(c) Physics and Biology: Theory 35) Practical 15)		50
(d) Food and Nutrition	One paper	100
(e) Family Living	One paper	100

11. FIXATION OF MARKS BETWEEN THEORY AND PRACTICALS

As a general principle, it would be appropriate to allocate 75 per cent marks to Theory and 25 per cent to Practicals in subjects having Practicals. The Boards of Secondary Education, will, however, decide the distribution of marks between Theory and Practicals in the light of nature and requirements of each subject. Some indication of the division of marks between Theory and Practicals has also been given in the detailed syllabuses for subjects requireing Practicals. For instance, Music Practicals will require 70 per cent marks as against 30 per cent for Music Theory.

12. CONDITIONS FOR QUALIFYING FOR THE SECONDARY SCHOOL CERTIFICATE

To qualify for the Secondary School Certificate, a candidate shall pass in :-

(a) Bengali or Urdu, including Sindhi or an elective paper in place of Urdu paper II	Two papers	200

GENERAL SCHEME OF STUDIES (CONTD)

			Marks
(b)	English	Two papers	200
(c)	General Mathematics	One paper	100
(d)	Social Studies	One paper	100
(e)	Two other papers of 100 marks each		200
		Total:	800

Provided that if a candidate, after fulfilling the conditions of qualifying for the Secondary School Certificate, passes in one or more of the remaining papers, the marks obtained by him in the paper or papers in which he passes, shall be added to his total, but the marks obtained by him in the papers in which he fails, shall not be added to his total.

Provided further that in subjects, requiring Practicals, it shall be necessary to pass in Theory and Practicals separately.

(2) For the transitional period of five years, students from schools, certified by the Director of Public Instruction as not having suitable arrangements for science teaching in respect of teachers, equipment and laboratories, will have the option to answer some additional questions on theory in lieu of practicals in General Science.

13. CONDITIONS FOR CONTINUING IN CLASS X.

Candidates, who do not pass in at least two papers out of four in the Secondary School Certificate Examination Part I, shall not be permitted to continue

in class X and shall be detained in class IX. Candidates, who fail in one or two papers in the Secondary School Certificate Examination Part I, will be permitted to take the examination in the papers, in which they fail, along with the Secondary School Certificate Examination Part II.

14. The minimum pass marks and the marks for being placed in first, second or third division in the Secondary School Certificate Examination shall be determined by a committee of the Chairman of the Boards of Secondary Education.

15. The syllabuses in various subjects have been prepared on the basis of allocation of time indicated against the various subjects. The school will, however, drew their own programme of work according to the peculiar needs of their students without changing the general pattern in the suggested allocation.

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GENERAL SCHEME OF STUDIES

Secondary Education is to be regarded as a continuous process and therefore the objectives and purposes already laid down for the Secondary stage will apply equally to the Higher Secondary stage. The pupil is now almost an adult and is passing through the latest and perhaps the most critical period of adolescence. He is an adult in physique but lacks the sound judgement and stability of an adult. He wants to be free and useful to himself and to society; but he is likely to misuse his freedom without wise guidance. The guidance has to be given sympathetically and unobtrusively, so that his own sense of importance is not injured and he moves on, with confidence and self-reliance, to the responsibilities of adult life as a member of some profession, or to further studies in the University.

2. The Higher Secondary stage therefore constitutes the last step in general education and its objectives must be terminal if pupils are to assume adult responsibilities. To meet the requirements of this stage, the number of compulsory subjects has been reduced to two. Groups of elective subjects have been constituted for specific purposes so as to give this stage of education a pre-vocational character. The total number of subjects to be studied has been reduced to the minimum so as to make the training in them as thorough as possible. Emphasis is more on the formation of critical judgement than on the acquisition of information; on the development of

character through individual self-effort than on the control of the teacher; and on the understanding of social relationships by co-operative personal associations. Education given on these lines can be expected to produce young men and women who will have clear concepts of fundamental moral and spiritual values; and who will be imbued with a spirit of co-operation, self-sacrifice and patriotism.

3. Although the curriculum and syllabuses constitute a continuous and integrated whole for the Higher Secondary stage, the public examination will be held in two parts. One part of the examination will be taken in Class XI and the second part at the end of class XII without a break in studies at the end of class XI. Success in the examination will be determined by the student's achievement in both parts taken together.

4. The certificates issued by the Boards of Secondary Education will be supplemented by certificates issued by the Heads of institutions based on a record of progress in studies, behaviour, health, group activities and traits of character. Such a record shall be maintained throughout a pupil's stay in the institution and shall be made available when he leaves it.

5. The week will consist of 45 to 47 periods of 40 minutes each, varying with the nature of subjects taken by the pupil. Science subjects will, because of the Practicals, need more time than the Humanities and Languages.

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6. There will be two compulsory subjects, Bengali or Urdu and English. Three elective subjects will be taken from one of a dozen Groups, directed towards the realization of specific ends as pre-vocational training for different professions or preparation for particular types of University courses. The compulsory and elective subjects taken together will have 10 papers, of 100 marks each. Physical Education and Manual Work will be compulsory for all students.

7. <u>COMPULSORY SUBJECTS.</u>

(1) Urdu or Bengali

(a) Six periods per week shall be devoted to its teaching.

(b) There shall be two papers carrying 100 marks each.

(c) In the case of Bengali both papers shall be compulsory for all pupils.

(d) (i) In the case of Urdu one paper shall be compulsory for all pupils.

(ii) The second paper in Urdu will not be compulsory and students will be permitted to take a paper from the elective subjects in place of the second paper of Urdu, provided that students in such schools in the former Sind, as use Sindhi as medium of instruction, will take one compulsory paper of Sindhi in place of second paper of Urdu during the transitional period, required to make Urdu the medium of instruction in these schools.

(iii) The language to be used for the Urdu course in different areas will be different to suit th needs of each area. The objective of teaching Urdu as a language, will, however, be the same and the thought content of the reading material shall be directed towards the realization of the common objective.

(iv) The Boards of Secondary Education will decide whether there should be one or two papers of compulsory Urdu in their respective areas.

(e) The objectives for the teaching of Bengali and Urdu would be fostering national unity and developing sound comprehension and correct use of language. While study of suitable literature will constitute an integral part of the Bengali course; in the case of Urdu, it may be introduced in an elementary form in different areas according to their special requirements.

(f) The Boards of Secondary Education will have the books written, according to the syllabuses, for the areas under their jurisdiction so as to ensure that books for each area suited the power of comprehension of the pupils.

(g) Students who are not Pakistani nationals or whose mother tongue is Bengali will have the option of an alternative and easy course in Urdu. Similarly, students who are not Pakistani nationals or whose mother tongue is not Bengali will have the option of an alternative and easy course in Bengali.

(2) <u>English.</u> 200 marks

(a) 8 periods per week will be devoted to its teaching.

(b) There will be two papers carrying 100 marks each.

(c) The purpose of teaching English will be comprehension and correct use of language and not literature in the formal sense.

(d) The English course will include the teaching of functional language and reading material in the form of text books. The text books will comprise straightforward modern English rather than literature. Stories, travel and adventure, biography, simple poems and writings on scientific subjects and humanities would be appropriate for inclusion in the reading material.

(3) <u>Physical Education.</u>

Two periods per week will be devoted to Physical Education. ---- ---

It should consist mainly of physical training but the value of physical exercises should be explained to the students. Programme of Physical Education for girls should suit their requirements.

(4) Manual Work.

This should be given two hours per week, but the programme may be undertaken on weekly or monthly basis; subject to the condition that 72 hours are devoted to Manual Work during the year. These will be in addition to 45-47 periods per week, which are formally to be provided in the time table.

8. ELECTIVE SUBJECTS. 600 marks

Three or more elective subjects, comprising 6 papers of 100 marks each, shall be taken from one of the following Groups, provided that if a subject comprise two papers, both the papers shall be taken together. Six periods per week, excluding practicals wherever necessary, shall be given to the teaching of each elective subject comprising two papers.

(1) Humanities Group.

(a) General History OR Islamic History	200 marks
(b) Economics	200 "
(c) Geography	200 "
(d) Military Science	200 "
(e) Logic	200 "
(f) Psychology	200 "
(g) Civics	200 "
(h) Statistics	200 "

(i) Mathematics 200 marks

(j) Islamic Studies 200 "

(k) Outlines of Home Economics 200 "

(l) Music 200 "

(m) Fine Arts 200 "

(n) One of the following languages :-

(i) Arabic.
(ii) Bengali *
(iii) Bengali (Advanced)
(iv) Chinese
(v) English
(vi) French
(vii) German
(viii) Greek
(ix) Hebrew
(x) Hindi
(xi) Japanese
(xii) Latin
(xiii) Pali
(xiv) Panjabi
(xv) Pashto
(xvi) Gujrati
(xvii) Persian
(xviii) Russian
(xix) Sanskrit
(xx) Sindhi *
(xxi) Spanish
(xxii) Turkish
(xxiii) Urdu *
(xxiv) Urdu (Advanced)

(o) <u>Commercial Practice</u> 200 marks.

(i) Paper I: Accountancy OR Business Correspondence — 100 marks

Paper II: Typewriting and Shorthand — 100 marks

(p) Health & Physical Education.

(q) Such other subjects as may be prescribed.

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* For those students who do not take this language as a compulsory subject.

(2) Science Group (Pre-Medical)

(a) Biology	200 marks.
(b) Physics	200 "
(c) Chemistry	200 "

(3) Science Group (Pre-Engineering).

(a) Mathematics	200 marks.
(b) Physics	200 "
(c) Chemistry	200 "

(4) Science Group (General)

(a) Mathematics	200 marks.
(b) Physics *	200 "
(c) Chemistry	200 "
(d) Biology	200 "
(e) Geography	200 "
(f) Psychology	200 "
(g) Statistics	200 "

(5) Languages Group.

(a) One of the following languages as a 'Major Language', consisting of two papers:

(i) Arabic	200 marks.
(ii) Persian	200 "
(iii) Bengali	200 "
(iv) Urdu	200 "

The syllabus shall be the same as for these languages in the Humanities Group.

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* Students taking Physics must take Mathematics as one of their subjects.

(b) Two of the following languages as 'subsidiary language' comprising one paper each, provided that a language taken as 'Major' under (a) above will not be taken as 'subsidiary'.

(i)	Arabic	100 marks.
(ii)	Bengali *	100 "
(iii)	Chinese	100 "
(iv)	French	100 "
(v)	German	100 "
(vi)	Greek	100 "
(vii)	Hebrew	100 "
(viii)	Hindi	100 "
(ix)	Japanese	100 "
(x)	Latin	100 "
(xi)	Pali	100 "
(xii)	Panjabi	100 "
(xiii)	Pashto	100 "
(xiv)	Gujrati	100 "
(xv)	Persian	100 "
(xvi)	Russian	100 "
(xvii)	Sanskrit	100 "
(xviii)	Sindhi *	100 "
(xix)	Spanish	100 "
(xx)	Turkish	100 "

* For those who do not take this language as a compulsory subject.

(xxi) Urdu * 100 marks

The syllabus for a 'subsidiary language' shall be the same as for paper II of the same language in the Humanities Group.

(c) One subject, other than a language, from the Humanities Group.

(6) TECHNICAL GROUP

(a) Applied Mathematics 200 marks.

Paper I 100 marks
Paper II 100 marks.

(b) Applied Science 200 marks

Paper I (General) 100 marks.
Paper II (Heat Engines)
OR
Paper II (Electronics) 100 marks.
OR
Paper II (A.C. and D.C.)

(c) Engineering Drawing 100 marks.

(d) Workshop Practice
OR
Surveying 100 marks.

(7) COMMERCE GROUP

(a) Book Keeping & Accountancy. 200 marks.

Paper 'I' Book Keeping 100 marks

Paper 'II' Accountancy 100 marks

(b) Principles of Commerce 200 marks.

Paper I Business Methods & Correspondence and Precis Writing 100 marks

Paper II Shorthand & Typewriting
OR
Banking 100 marks

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* For those who do not take this language as a compulsory subject.

(c) Economics & Commercial Geography. 200 marks.

Paper 'I'

Paper 'II'

(8) HOME ECONOMICS GROUP.

(a) General Science, Food and Nutrition. 200 marks

Paper I Chemistry & Biology.

Part A:	Chemistry	Theory	35)	
		Practical	15)	50
Part B:	Biology	Theory	35)	
		Practical	15)	50

Paper II Food & Nutrition.

Theory	70)	
Practical	30)	100

(b) Clothing & Textiles and Applied Art. 200 marks.

Paper I Clothing & Textiles

Theory	70)	
Practical	30)	100

Paper II Applied Art

Theory	70)	
Practical	30)	100

(c) Family Life and Home Management. 200 marks.

Paper I Home Management

Theory	70)	
Practical	30)	100

Paper II Child Development and Family Life 100

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(9) NURSING GROUP.

(a) Paper I

(i) Nursing & First Aid	30	
(ii) Anatomy, Physiology & Hygiene	30	
(iii) Practical: Nursing Procedures, First Aid	30	
(iv) Oral	10	
		100 marks.

(b) Paper II

(i) Anatomy & Physiology	30	
(ii) Health of mother and child and Dietetics.	30	
(iii) Practical: Hygiene, Health of mother, and child and Dietetics.	30	
(iv) Oral	10	
		100 marks.

(c) Two or more subjects, carrying 400 marks, from any other group or groups. — 400 marks.

TOTAL: 600 marks.

(10) ISLAMIC STUDIES GROUP

(a) Arabic — 200 marks.

(b) Islamic Studies — 200 "

(i) The Quran and Hadith 100 marks

(ii) Fiqh and Usul-e-Fiqh 100 marks

(c) Islamic History and Culture		200 marks
(i) The political and cultural History of Islam upto the Umayyad period.	100 marks	
(ii) Option I: The political and cultural History of Islam from the beginning of the Abbasids to fall of Baghdad:	100 marks	
(ii) Option II: Cultural system of Islam:		
	TOTAL:	600 marks

(11) MILITARY SCIENCE GROUP.

(a)	War	100 marks
(b)	Military History	100 "
(c)	Economics of War	100 "
(d)	Military Geography	100 "
(e)	Defence of Pakistan	100 "
(f)	Special Military Studies	100 "
	TOTAL:	600 marks

(12) AGRICULTURE GROUP.

(a) Agriculture		200 marks
(i) Paper I (Theory 75, Practical 25)	100 marks.	
(ii) Paper II (Theory 75, Practical 25)	100 marks.	
(b) Two or more subjects, carrying 400 marks, from any other group or groups.		400 marks
	TOTAL:	600 marks

EXAMINATION

(1) The Higher Secondary Certificate Examination shall consist of two Parts.

(2) The Higher Secondary Certificate Examination Part I shall be held at the end of Class XI and Part II at the end of Class XII.

(3) The Higher Secondary Certificate Examination Part I shall comprise three papers of elective subjects. In the case of subjects, comprising two papers, examination in paper I shall be held at the end of Class XI and in Paper II at the end of class XII. In the case of groups, having subjects comprising one paper only, the Boards of Secondary Education will decide the three papers in which examination will be held at the end of class XI.

(4) The Higher Secondary Certificate Examination Part II shall comprise:

(a) Bengali or Urdu including Sindhi and elective paper, if any, in place of Urdu paper II.

(b) English

(c) Three elective papers, other than those taken in Higher Secondary Certificate Examination Part I, so as to make a total of 700 marks for Higher Secondary Certificate Examination Part II and 1000 marks for Higher Secondary Certificate Examination

HSS/General Scheme of Studies.

Provided that Part I and Part II of the Higher Secondary Certificate Examination in Home Economics Group shall be as follows:-

Part I: <u>General Science, Food and Nutrition.</u>

Paper I: Part (a): Chemistry	50 marks.
<u>Clothing, Textile and Applied Art:</u>	
Paper I and Paper II	200 marks.
<u>Family Life and Home Management.</u>	
Paper I: Home Management	100 marks.
	Total: 350 marks.

Part II: <u>General Science, Food and Nutrition.</u>

Paper I: Part (b): Biology	50 marks.
Paper II: Food and Nutrition.	100 marks.
<u>Family Life and Home Management.</u>	
Paper II: Child Development and family life.	100 marks.
Bengali or Urdu, including Sindhi in place of Urdu Paper II.	200 marks.
English.	200 marks.
Total:	650 marks.

Provided further that Part I and Part II of the Higher Secondary Certificate Examination in Military Science shall be as follows:-

Part I: (a) War
(b) Military History
(c) Economics of War.

Part II: (a) Military Geography

(b) Defence of Pakistan

(c) Special Military Studies

FIXATION OF MARKS BETWEEN THEORY AND PRACTICAL.

As a general principle, it would be appropriate to allocate 75 per cent marks to Theory and 25 per cent to Practicals in subjects having Practicals. The Boards of Secondary Education will, however, decide the distribution of marks between Theory and Practicals in the light of nature and requirements of each subject. Some indication of the division of marks between Theory and Practicals has also been given in the Scheme of Studies and syllabuses for subjects requiring Practicals. For instance, Music Practical will require 50 per cent of the total marks.

CONDITIONS FOR QUALIFYING FOR THE HIGHER SECONDARY CERTIFICATE

To qualify for the Higher Secondary Certificate, a candidate shall pass in all the subjects, compulsory and elective, provided that in subjects, requiring Practicals, it shall be necessary to pass in Theory and Practical separately.

CONDITIONS FOR CONTINUING IN CLASS XII

Candidates, who do not pass in at least two papers out of three in the Higher Secondary Certificate Examination at the end of class XI, shall not be permitted to continue in class XII and shall be detained in class XI. Candidates,

HSS/General Scheme of Studies

who fail in one paper in the Higher Secondary Certificate Examination Part I, will be permitted to take the examination in the paper in which they fail along with the Higher Secondary Certificate Examination Part II.

MINIMUM PASS MARKS AND MARKS FOR DIVISIONS

The minimum pass marks and the marks for being placed in the First, Second or Third Division in the Higher Secondary Certificate Examination shall be determined by a Committee of the Chairmen of the Boards of Secondary Education.

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APPENDIX I

GOVERNMENT OF PAKISTAN
MINISTRY OF EDUCATION

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Subject: Appointment of Curriculum Committee for Secondary Education.

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NOTIFICATION.

In order to give effect to the recommendations of the Commission on National Education in respect of the formulation of curriculum and syllabuses for secondary education, Government of Pakistan is pleased to set up a Curriculum Committee for Secondary Education.

2. The terms of reference of the Curriculum Committee for Secondary Education shall be :

(1) To formulate the curriculum and syllabuses for Secondary Education in conformity with the recommendations of the Commission on National Education so as to ensure the realization of national objectives and maintenance of uniform academic standards throughout Pakistan.

(2) To draw up the general scheme of studies for secondary education by integrating into it schemes of studies for the three parts of secondary education - (i) classes 6 to 8, (ii) classes 9 and 10 and (iii) classes 11 and 12, keeping in view the need of diversification of courses at classes 9 & 11.

(3) To lay down broad principles for the guidance of Committees of Courses in framing detailed syllabuses in individual subjects.

(4) To examine and coordinate the syllabuses, prepared by the Committees of Courses, to ensure that they constitute an integrated and harmonious whole.

3. The Curriculum Committee for Secondary Education shall have sub-committees, known as Committees of Courses, to frame detailed syllabuses in various subjects separately.

4. The Curriculum Committee shall meet at Abbottabad from 7th July, 1960 and finalize its recommendations for consideration of Government by 7th August, 1960.

5. The composition of the Committees of Courses shall be notified separately.

6. The Curriculum Committee for Secondary Education shall consist of :-

(1)	Professor Taj Muhammad Khayal, Chairman, Board of Secondary Education, Lahore.	CHAIRMAN.
(2)	Dr. R.M. Ewing, Principal, F.C. College, Lahore.	Member
(3)	Mr. M.Z. Islam, President, East Pakistan Secondary Education Board Dacca.	"
(4)	President, Karachi Board of Secondary Education, Karachi.	"
(5)	Dr. Akmal Hussain, Director of Technical Education, West Pakistan, Lahore.	"
(6)	Mian Mushtaq Ahmad, Director of Education, Peshawar Region, Peshawar.	"
(7)	Dr. Qazi Motahar Hussain, Dean of the Faculty of Science, Dacca University, Dacca.	"

(8) Dr. A.R. Malik, Dean of the Faculty of Arts, Rajshahi University, Rajshahi. — Member.

(9) Dr. Sirajul Haq, Head of the Department of Arabic, and Islamic Studies, Dacca University, Dacca. — "

(10) Dr. Qazi S.D. Ahmad, Dean of the Faculty of Humanities and Social Sciences, Punjab University, Lahore. — "

*(11) Allama Alauddin Siddiqi, Head of the Department of Islamic Studies, Punjab University, Lahore. — "

*(12) Dr. N.A. Baloch, Professor of Education, Sind University, Hyderabad. — "

(13) Mr. Abdul Hashem, Registrar, Peshawar University, Peshawar. — "

(14) Mr. Hamid Ahmad Khan, Principal, Islamia College, Civil Lines, Lahore. — "

(15) Mr. Ghulam Mustafa, Assistant Director of Public Instruction, West Pakistan, Lahore. — "

*(16) Mian Namdar Khan, Principal, Central Training College, Lahore. — "

(17) Mr. Q.H.K. Bakhtiari, Principal, Central Government Teachers' Training College, Karachi. — "

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(18) Mr. M.Osman Ghani, Member
Principal,
Teachers' Training College,
Dacca.

(19) Miss Azizun Nisa, "
Principal,
Women's Training College,
Mymensingh.

(20) Dr. A.N.M. Mumtazuddin Chaudhry, "
Principal,
Teachers' Training College,
Rajshahi.

(21) Dr. G.Y.K. Niazi, "
Director,
Education Extension Centre,
Lahore.

(22) Mr. Abdul Moktadar, "
Director,
Education Extension Centre,
Dacca.

(23) Mr. Ikram Hussain, "
A.D.P.I. (Secondary Education),
Directorate of Education,
Dacca.

* (24) Mr. Muhammad Rafi, "
Assistant Director of Public Instruction,
West Pakistan,
Lahore.

(25) Mr. Abdul Majid Khan, "
Officer on Special Duty,
Directorate of Education,
Peshawar.

(26) Mr. S.M. Sadaruddin, "
Inspector of Schools,
Education Directorate, East Pakistan,
Dacca.

(27) Dr. M.A. Azeem, "
Professor of Chemistry,
Government College,
Lahore.

(28) Dr. Mrs. Kaniz Siddiqi, "
Principal,
Government College for Women,
Rawalpindi.

(29) Mr. M. Solman Chaudhry, Member.
Principal,
M.C. College,
Sylhet.

(30) Sheikh Ata Ullah, "
Principal,
Islamia College,
Chiniot.

(31) Syed Zulfiqar Ali, "
Principal,
Aitchison College,
Lahore.

(32) Mrs. Henry Lall, "
Principal,
College of Home Economics,
Karachi.

(33) Mrs. Zebunnesa Rahman, "
Principal,
Eden Girls College,
Dacca.

(34) Miss K. Qureshi, "
Deputy Directress of Education,
Lahore Region,
Lahore.

(35) Mr. Mukhtar Sadiq, "
Publications Officer,
Directorate of Education,
Lahore.

(36) Father Raymond, "
Principal,
St. Patricks College,
Karachi.

(37) Sufi M. Jamal Ullah, "
Headmaster,
Islamia High School,
Gujranwala.

(38) Mr. G.N. Butt, "
Headmaster,
Central Model School,
Lahore.

(39) Mr. Sultan Hussain Shah, "
Headmaster,
Islamia Collegiate School,
Peshawar.

(40)	Mr. K.A. Chana, Headmaster, Government High School, Dadu.	Member.
(41)	Mr. Imran Ali, Headmaster, Rajshahi Collegiate School, Rajshahi.	"
(42)	Mrs. Lutfunnesa Choudhry, Headmistress, Qamarunnesa Govt.Girls School, Dacca.	"
(43)	Mr. M.A. Razaq, Headmaster, Technical High School, Tejgaon, Dacca.	"
(44)	Mr. Ghulam Muhammad Khan Niazi, Headmaster, D.B. High School, Awagat. (Distt.Lyallpur).	"
(45)	Mr. M.A. Rahman, Principal, Railway Public School, Abbottabad.	"
(46)	Mr. Kabir Chaudhry, Principal, B.M. College, Barisal.	"
(47)	Mr. Abdul Haq, Professor, Central Training College, Lahore.	"

7. The Curriculum Committee for Secondary Education will be assisted by a number of consultants.

Sd/- S.M.Sharif.
EDUCATION SECRETARY.

Dated 24th June, 1960.

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APPENDIX II

CURRICULUM COMMITTEE FOR SECONDARY EDUCATION.

CONSULTANTS.

1. Dr. W.H. Andaleeb Shadani,
   Head of the Department of Urdu,
   Dacca University,
   Dacca.

2. Dr. Abdul Hamid,
   Head of the Department of History,
   Government College,
   Lahore.

3. Dr. Enamul Haq,
   Director, Bengali Academy,
   Dacca.

4. Dr. A.B.M. Habib Ullah,
   Head of the Department of Islamic History,
   Dacca University,
   Dacca.

5. Dr. Inas Ali,
   Head of the Department of Physics,
   Dacca University,
   Dacca.

6. Dr. Niaz Ahmad,
   Director, Institute of Chemical Technology,
   Punjab University,
   Lahore.

7. Dr. Abdul Ghafar,
   Principal,
   Khyber Medical College,
   Peshawar.

8. Dr. S.M. Abdullah,
   Principal,
   Oriental College,
   Lahore.

9. Maulana Abdul Qadir,
   Head of the Departments of Urdu, Pashto & Persian,
   Peshawar University,
   Peshawar.

10. Major Nazir Ahmad,
GSOII AE Directorate,
General Headquarters,
Rawalpindi.

11. Mr. Muhammad Ashraf Khan Durrani,
Professor of Geography,
Peshawar University,
Peshawar.

12. Mr. Muhammad Hussain,
Agricultural Department,
Peshawar University,
Peshawar.

13. Mr. Mumtaz Ahmad,
Lecturer, Central Training College,
Lahore.

14. Ch. Nazir Ahmad,
Divisional Inspector of Schools,
Multan.

15. Mr. Inayat Ali Gardezi,
Headmaster, Government High School,
Multan.

16. Mr. G.H.Gethin,
c/o British Council,
P.O. Box No.88,
Lahore.

17. Dr. C.W.Jung,
Director, Institute of Education,
Punjab University,
Lahore.

18. Mr. Venn,
Adviser on Technical Education,
Government of East Pakistan,
Dacca.

19. Mr. Wm.F.Hawkins,
Consultant,
Directorate of Technical Education,
Lahore.

20. Mr. S.N. Lord,
Consultant, Hand & Craft Teaching,
Directorate of Technical Education,
Lahore.

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21. Mr. W.J.Ball,
c/o British Council,
Dacca.

22. Mr. Olaf Kran,
Consultant, Education Extension Centre,
Gulberg, Lahore.

23. Mr. D.V. Smith,
Consultant, Education Extension Centre,
Dacca.

24. Mr. Orville Peterson,
Consultant, Education Extension Centre,
Dacca.

25. Mrs. M. Bashir,
Principal, College of Home & Social
Sciences, Gulburg,
Lahore.

26. Miss R.Noor Muhammad,
Vice-Principal,
College of Home & Social Sciences, Gulburg,
Lahore.

27. Mrs. Hamida Khatoon,
Principal, Designate,
College of Home Economics,
Dacca.

28. Miss Jamila Zafar,
Professor, National College of Art, The Mall,
Lahore.

29. Miss Rua-Ven-Horn,
Chief Adviser,Pak Oklahoma,
Home Economic Project, Eden College,
Dacca.

30. Mrs. F. Kimbell,
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